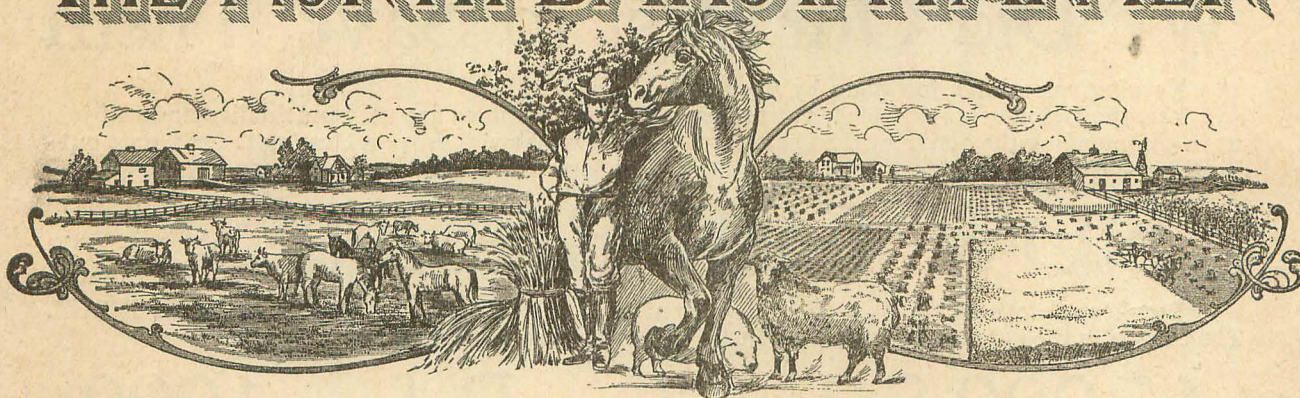


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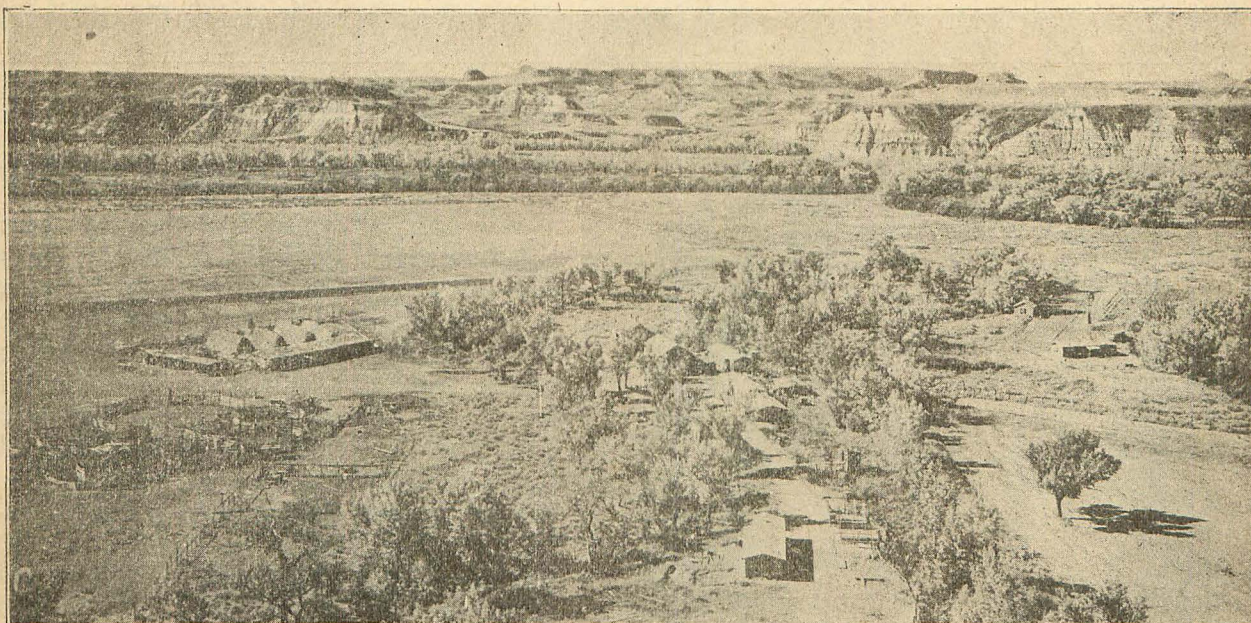


"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 9, No. 7
LISBON, N. D.

JANUARY 15, 1908

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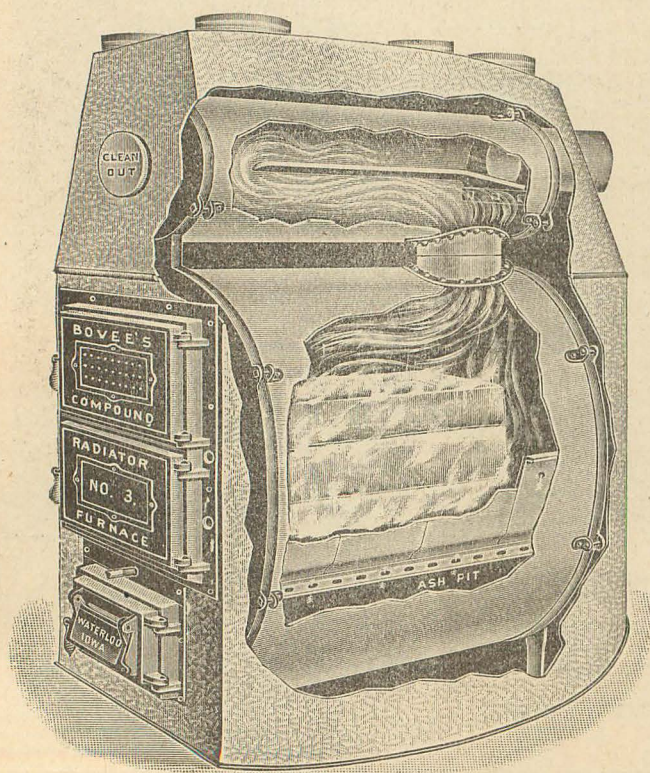
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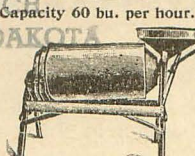
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THE NORTH DAKOTA FARMER

Vol. 9, No. 7

LISBON and FARGO, N. D., JANUARY 15, 1908

50 Cents a Year

MY EUROPEAN TRIP

By PRES. J. H. WORST, N. D. A. C.

Advantages of Foreign Travel

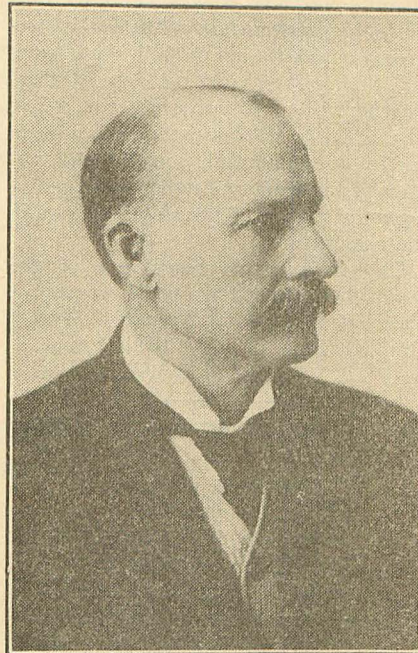
One of the chief advantages gained from foreign travel is to observe how elsewhere those of our own vocation plan and work and live. Where the conditions are so widely different from what we are accustomed to here in the Northwest, we naturally expect to find the same difference in the implements farmers use, the crops they grow and in their methods of cultivating the soil. The difference is even greater than we expected to find it.

Traveling thru England in early springtime one cannot help but feel the charm of rural scenery. The small fields enclosed with hedges of well-trimmed hawthorn, the landscape dotted with trees, the green meadows and the fields of grain and vegetables all combine to make a picture of more than classic beauty as the train rushes swiftly onward. Only portions of England, however, are devoted chiefly to the cultivation of cereals. By far the greater portion of the island, as observed, is meadow and hayland, and butter and cheese making and supplying milk for the cities constitutes the principal rural industry for a very large portion of the country.

Where wheat, oats and barley are grown the land is well tilled and the average yields are large. The English farmer is painstaking with the manure produced on the farm and it is quite generally kept under a roofed shed to prevent the soluble portions from being wasted. Root crops are quite extensively grown as food for sheep and cattle.

Farmers as a rule are renters. While there is considerable agitation in favor of breaking up the great landed estates and substituting small holdings instead, yet there also is earnest opposition to the plan, even by the renters, many of whom contend that the present regime is as fair to the renter as to the proprietor. They contend that the estates

have none the better of the arrangement, since they must furnish the land, maintain the buildings, ditches and fences, pay the land tax, etc., and the rent they receive is not more than a fair division of the profits, while the renter is relieved of much responsibility. Moreover, it is contended that with small holdings, many farmers, being naturally



PRESIDENT J. H. WORST.

careless would allow their farms to become impoverished and weedy, the latter especially they contend would injure their neighbors, whereas, under the present system every renter is required by the terms of his contract to properly diversify his crops, keep his fields clear of troublesome weeds and by the use of barnyard manure and other fertilizing agents maintain the fertility of the land.

Where the production of butter, cheese and milk are the principal pursuits and where sheep and beef cattle are

pastured in large numbers the same care of the land is required, tho the danger of soil exhaustion is minimized.

Englishmen as a rule are good stockmen and breed fine sheep, cattle and horses. The sheep are generally of the coarse woolled mutton type and are quite large. Many types of horses and cattle are to be seen upon the farms which, in the main, show excellent breeding.

Vast tracts of land, however, are reserved for parks and game preserves to afford pastime for the sporting gentry. I asked an Englishman one day why these game preserves were not broken up and converted into small farms, and whether, in his opinion, it would not prove highly beneficial to England to have the whole country intensively cultivated with a view to supplying, as far as possible, food for her people. "Why," he answered, "all England could not supply London alone with food for a single week. Since supplies must be provided from elsewhere for 51 weeks we may as well make it 52 weeks and be done with it."

This extreme view of England's food supply is not universal, however, nor is it entirely true. The advocates of small holdings and independent ownership of the land by the men who till the soil are impelled by loftier motives than the mere matter of food supply for England's millions.

It is to provide healthy yet remunerative labor for the largest possible number of her people and to foster that spirit of independence and national loyalty which finds its best expression under conditions where men may command their time and their energies. The factory whistle is not conducive to independent action. "Back to the soil" is a growing sentiment in England. With small holdings thousands of families now crowding the manufacturing centers would be enabled to make a comfortable living on the land and also greatly lessen England's dependence upon other countries for food.

"The youth have been taught from their childhood by their mothers that there are no 'prospects' for them if they 'take to the land,'" says the Spectator, hence "they prefer any occupation in

any town, put up with any inconvenience, to be in the streets, and often deliberately lower their way of life, especially in the way of crowding." There sentiments were urged when England's economists deliberately destroyed British agriculture in order to build up the British factory system. The unwisdom of this plan is now apparent and England, in large part at least, is striving just as zealously to undo the mischief wrought by the advocates of the factory system. The House of Commons seems anxious to bring about the change here indicated but the upper branch of the British legislature has hitherto opposed it.

The traveler cannot but be impressed by the small size and irregular shape of the fields.

The points of the compass were entirely ignored when the fields were laid out, and whether the fences are of stone or hedge, the only purpose seems to have been to enclose a patch of ground in any sort of irregular shape.

Quite a number of agricultural colleges and experimental farms are maintained in England. The curricula of the colleges are somewhat similar to our American colleges, tho they confine their instruction more particularly to technical subjects. The A. C. Farm Husbandry course very nearly parallels the training offered in the smaller agricultural colleges in England. Students there, however, remain at college eleven months of the year and engage quite largely in the farm and experimental work. They divide their time between class room, laboratory and field work. Those desiring to fill a larger position than farming—those who wish to become professors or instructors in some branch of agriculture—take additional instruction, generally in one of the larger institutions.

The experimental work relates mainly to fertilizers, rotation of crops, plant breeding and problems relating to feeding and breeding livestock. The dairy cow is given considerable attention, the sheep, hog and horse are by no means neglected.

Travel where we may, the question of producing maximum crops without impairing the productive power of the soil is always uppermost, especially where the country is old and the population is dense. And the universal conclusion arrived at is that a proper rotation of crops is fundamentally associated with continued agricultural prosperity. Our state is no exception to this rule. Our soils are yet rich in plant food and not seriously impaired on account of long service, but this condition can only be maintained for any length of time by heeding the universal admonition. The Holland farmer goes to the very extreme with crop rotation, a detailed ac-

count of which I hope to give in a future paper.

Ireland has some charming scenery, but most of the agriculture seen there was in a backward state. For one thing the past season was quite unfavorable on account of almost continuous cold and cloudy weather. The fields of grain were not promising and the country presented anything but a thrifty appearance. The farm houses averaged poor and were rather squalid, with ill kept surroundings and but little evidence of interest in agriculture, beyond the making of a bare living. Other portions of the island doubtless would present a fairer appearance.

Dublin and Belfast contain many pretty, well kept streets, and not a few imposing buildings—buildings that would do credit to any city. The city life of Ireland averages up with that seen in England or on the continent, but the smaller villages and the country, somehow, seemed to be enveloped with an atmosphere of despondency.

For a country that makes agriculture a secondary matter; that in effect in years gone by deliberately sacrificed her farming possibilities in order to build up her factory system, Great Britain, nevertheless, presents many well kept farms and the average yield per acre is large, whether of small grains or root crops. The agricultural class is becoming more and more influential, socially and politically, and many Englishmen predict a general revival of farming activities in the near future.

The unfavorable conditions of the atmosphere ruined many photographic plates intended for this issue. Views of Holland will appear in the next issue.

(To be Continued)

THE CHARACTER OF PUBLIC SCHOOLS

Prof. C. B. Waldron

(Concluded)

It is fortunate for us as educators that the profession that the interests of our state demand shall be exalted that of agriculture, is also one that lends itself to educational ends. No faculty was ever given to man that cannot be naturally and properly trained in this field of study.

It may be well to explain this connection that the term agriculture is not here used in a narrow and technical sense. It is meant to apply to all that pertains to rural life and rural affairs, to home building and adornment, to rural societies and institutions of all kinds, including fairs, farmers' institutes, etc., quite as much as to field and garden operations.

Is it possible that the schools cannot be made most potent and effective factors in properly directing and instructing young people along these essential

lines? Is it possible also that material gathered from other sources is better suited for developing and training the mind, the soul and body? Where can observation be better trained, the sympathies more fully developed, the reasoning powers made more active and accurate, the sense of the beautiful more surely stimulated than in looking into and practicing these things?

It is the mission of the schools by their teaching and example to demonstrate these truths. This they can never do by standing aloof? They must enter directly and completely into the life of the community, dealing with its problems and assuming its responsibilities.

Our schools up to within recent times have occupied the anomalous and inconsistent position of isolating country pupils entirely from country things six hours a day for eight years in order to prepare them for country life! It cannot be well contended that any interest, even that of education demands this. Prof. Hanus, of Harvard, says, "the only real preparation for life's duties, opportunities and privileges is participation in them so far as they can be rendered intelligible, interesting, and accessible to children and youth of school age; and hence the first duty of all education is to provide this participation as fully and freely as possible."

Prof. Hanus occupies the chair of the history and art of teaching in Harvard University and his statements on this subject are, of course, well considered and based upon abundant study and observation. The condition indicated by Prof. Hanus has been practically attained in most of the European countries and is being worked out in many of the states in our own country.

A Commission on Industrial and Technical Education appointed by the governor of Massachusetts made their report to the legislature in April of last year after a year of study at home and abroad.

The commission found that there was a wide-spread interest in the general subject of industrial education but that our people generally and even those most interested in the subject, have no definite idea as to its proper scope or methods.

"Compared with the opportunity afforded in Europe for acquiring knowledge and skill in productive industry, the work now being done in Massachusetts is strikingly and painfully inadequate and while in this country "the general public has been strangely blind to the narrowness of the public school education for every form of industrial life."

One of the conclusions of the commission was that "the state needs a wider diffusion of industrial intelligence

as a foundation for the highest technical success, and this can only be acquired in connection with the general system of education into which it should enter as an integral part from the beginning. The latest philosophy of education reinforces the demands of productive industry by showing that that which fits a child best for his place in the world as a producer tends to his own highest development physically, intellectually, and morally."

It may be said, however, that while the situation in this country is extremely backward yet the outlook is not wholly unpromising.

State and national associations of all kinds representing both educational and industrial interests have, within the past year or so, expressed themselves freely and plainly in favor of a type of education that we have been considering.

Prominent men of acknowledged good judgment like Sec'y Wilson, Jas. J. Hill and President Roosevelt have all taken pains on noted occasions to point out the necessity of this type of education.

The general government thru its Nelson Bill has put into the hands of agricultural colleges funds to be used toward preparing teachers for this line of work.

Some of the states of which Georgia is a notable example, have made special provision for instruction in agriculture. In Georgia an agricultural high school is established in each of the eleven congressional districts, the proviso being made that each community furnish the equipment in the way of lands and buildings not less than 200 acres of land to be donated in each instance. These donations in the way of land and cash were very liberal aggregating over \$800,000 for the eleven schools or over \$75 000 for each school.

How many of our own local communities would do as well, yet I imagine we would resent the imputation of having less public spirit and patriotism than have the people of Georgia. Shall lusty and boastful North Dakota do less for her people than does poor old Georgia?

When our pioneer days have vanished and we come to understand that a scientific and intensive system of agriculture must take the place of our present wasteful system of farm management and exploitation we will doubtless do as well. Even as it is we are making progress along with practically all of the other states. In some form or other, the system that educates by bringing young people into contact with nature is being developed everywhere. It is the duty of teachers to make ready for its coming; not a duty merely but a necessity for those teachers who would do the best by themselves. The demand for

the newer education is likely to become so great as to be embarrassing unless we put ourselves in readiness for what is surely coming.

For, however we prate and dally, the old formal type of education is doomed. Communities and progressive educators alike are coming to see that it contains elements which not only cripple and weaken the society that supports it but that it in a large measure fails to educate. Developing the reason, it leaves the perceptive faculties untrained. It fails to establish the initiative and originality that can be acquired only thru contact with things. We should never forget this lesson that the world has taught over and over, namely, that a race progresses and grows strong during the period that it comes in contact with things, particularly natural things, during the period when it is hewing out the forests, exploring the waters and tilling the soil. It becomes decadent when its ablest men leave these vocations and place themselves outside of the healthful and stimulating influence they exert.

We need not wait for the passing of a people to note the truth of this law. It is a matter of general comment that a man who has no advantages, so called, but is brought directly into contact with things becomes strong and able while his sons with all the advantages that a formal and complex society has to offer are conspicuously lacking in their father's abilities and attainments. It should be the business of the schools to correct this tendency rather than promote it as the formal type of education certainly does.

The rudeness and sordidness often found in farm life is largely due, indirectly, to our formal system of education. Why? Because any unusual talent and culture developed in a country boy is likely to be the very means of his leaving the home community instead of remaining to improve it.

It is doubtless true that the marked decline of many of our rural communities is due in part to the bad effects of the formal type of education. To meet the new type of education there must come into our schools a different atmosphere than that now existing. It must be such an atmosphere as surrounds the boy in his common daily life, the atmosphere of doing and mastering rather than that of learning and repeating.

It is right here that this problem comes into direct contact with the teacher and right at this point that the teacher can lend her air in promoting this movement. All school houses should be fitted with a laboratory and work room not for illustration merely but for practice and experiment. The uses to which it may be put are beyond all possibility of enumeration and will be

limited only by ability, ingenuity and training of the teacher.

School gardens either at the school or the different homes will of course be necessary features of school work. The growing of trees, shrubs and various ornamental plants about the school buildings for their shelter, beauty and the hundred lessons they will teach will seem as natural and necessary part of the new regime as locating the capitals of South America does of the old.

You are not to imagine that I am drawing for you a fancy picture of impossible conditions that you are free to dismiss with the close of this reading. I am describing to you things that I have seen; a condition already in existence among more progressive communities; a condition that has placed Germany at the head of all nations in industrial and scientific achievements.

You are all doubtless sufficiently familiar with public movements to know that in a few years this system in more or less completeness will be our own and will be accepted and operated as a matter of course.

It may be expecting too much that great enthusiasm over this or any other educational subject can be awakened among teachers on this, the dawn of a new leap year, but even at that the subject must affect you from one standpoint or another.

It is the part of wisdom to adjust ourselves to the changes and advances that the great time spirit has determined upon. There is no resisting him. His decrees are inevitable. There is no use longer questioning what immediate changes are to take place in the world of education. That these changes will be rapid and overwhelming is not to be expected nor desired. That mistakes will occur in the natural order of things.

It is our duty to so thoroly prepare ourselves that these can be intelligently and successfully met. As in all similar situations, it is only thru personal effort that this can be accomplished. Ways are now provided such that with reasonable effort one can become familiar with the means and methods of fitting one's self for this type of instruction.

While the newer education will not bring the millenium, it will certainly, bring about a healthful and needed change in the social and industrial features of rural life. This improved condition in turn reacts upon the schools. Proving their worth and efficiency in a community they become honored accordingly, the profession of teaching is exalted and education itself voluntarily given the proud position that we now plead for in vain.

Hundreds are using Personal,
page 3.

THE FIRELESS COOKER

Mrs. Arland D. Weeks, Fargo, N. D.

The delivery boy, who should have been in school, said, "What is that thing that looks like a coffin?" "That is where I do most of my cooking," was the answer. "Electricity?" he questioned. "No." "Gas?" "No", that is a fireless cooker, it doesn't need any fuel."

Not knowing whether he was being teased or was revealing an ignorance unbecoming his dignity and 14 years, he suddenly left. But the fireless cooker remains in the kitchen, steadily saving time, labor, and fuel.

What is a fireless cooker? It is an arrangement for packing a tightly closed cooking utensil containing boiling food in any substance which will keep heat from escaping. Properly packed food brought to the boiling point on the range or oil stove will keep hot twelve or fourteen hours, and will cook by its own heat. The fireless cooker keeps food hot as the refrigerator keeps it cold, the boiling water around the food taking, in a way, the place of the ice in the refrigerator. For instance, oatmeal, boiled five minutes at night, and packed in the cooker, will be found thoroly cooked and hot enough to serve without re-heating, at breakfast time. It is a luxury to know, on getting up in the morning, that the oatmeal is hot and ready, no scorching, no burning, and above all, no danger of indigestion from hastily cooked, underdone cereals. For the other cereals are as easily cooked as the oatmeal. In fact any food that may be boiled or steamed on any stove is more easily and cheaply cooked in the fireless cooker; cereals, vegetables (including potatoes), eggs, meat, puddings, dried and fresh fruits, custards, soups, all are good subjects to be tried in the cooker.

In California, where chickens are usually very expensive, the fireless cooker is used extensively for cooking the older and tougher fowls which cost less. Disjoint the fowl, season with salt and pepper, roll each piece in flour and fry to a delicate brown. Place the fried pieces in the utensil to be used in the cooker, make in the frying pan enough slightly thickened brown gravy to cover the chicken, bring all to a boil, cover tightly and simmer five minutes, then place in the cooker. This should be done by eight o'clock. At noon the fowl will be found hot, thoroly cooked and of rich flavor, for with this method of cooking very little steam or flavor escapes.

In winter, with a good range which is also used for heating purposes, the fire-

less cooker is not so necessary as is summer except for overnight cooking of cereals or of beans for baking the next morning. Still, even with such a range, there are many times when the fire might be allowed to run very low if dinner were cooking in the "fireless," and many more times when the busy housewife upstairs or even driving to town would be glad to absolutely know that the potroast could not burn nor the potatoes boil over.

These fireless cookers, which have been well known and used in Norway for many years, are now being used by both the German and United States armies. Within the last year they have been made and placed on the market for household use. Nearly all of the magazines devoted to women's affairs publish advertisements of these cookers. They range in price from three to fifteen dollars, the price depending somewhat on the size of the cooker and the number of utensils furnished. They may, however, be made at home cheaply, easily and successfully.

First, buy the cooking utensils. Three is the best number giving one for meat, one for a vegetable and one for a dessert. These utensils should be pail-shaped granite ware and have tightfitting non-rustable covers. For three utensils take a wooden box about 40 inches long, 18 inches deep, and about 10 inches wider than the widest pail, for it is not necessary to have all the pails of the same size; one 8 qt. and two 3 qt. pails are the usual sizes. Put in the bottom of the box a 5 or 6 inch layer of bran or hay, tightly packed down, then put in the pails, each one enclosed by a piece of card board or asbestos (two cents a sheet at most hardware stores) pasted or sewed together to fit the sides and bottom of the pail as a muff box without a cover fits a muff. Pack the hay or bran tightly in between the pails and all around up to within an inch of the pail covers. Withdraw the pails and the cardboard or asbestos will keep the filling from tumbling into the spaces intended for the pails. Now cover the whole with unbleached cotton or other clean, strong goods fitting it into the holes. This helps to keep the filling in place. Make a cushion of bran or hay to fit over each pail, making each large enough so that the three cushions together will cover the top of the box. Fit the box cover so that it covers tightly, arrange a fastening for it and your box is done. It "cooks while you sleep" as the advertisements say, also while you read, write letters, sweep upstairs or drive the children to school.

This method of cooking not only saves time and fuel but does away to a large extent with the overheated kitchen. The kitchen, where the work is the most active, is usually the warmest room in the

house. A kerosene, gasoline or gas stove in the kitchen, with a fireless cooker to do the long, slow cooking which softens fibres and develops flavors, and a heating stove in the dining room, distributes the heat more desirably and need be no more expensive either in purchase price or cost of running, than the wood or coal range.

WHY BROWN HAD TO MOVE TO TOWN

By R. E. Busch

Brown is going to move to town
For his farm is all run down,
And weeds are many to be found.

Sad things look so very bad
For he might as well have had
Hundred things to make him glad.

See, his wheat was Number Three,
Corn in weeds you'd always see,
At noon he'd sleep till half past three.

Not a decent field he got
His machines stood out to rot
Then he'd growl about his lot.

Grim! his trees he'd never trim;
Never cut a single limb,
So his apple crop was slim.

Sheep a wet place had to sleep
Wind through henhouse cold would sweep,
Hogs were in the mud knee-deep.

Great on crawling! Watch his gait!
Mornings he was always late—
Used to sleep till half past eight.

Course! he admitted with remorse
That he never used his force
To groom or brush a cow or horse.

Lice got on his horses twice
And his house was full of mice
Now such things aren't very nice.

Bum, the way the farm was run,
Nothing passed for Number one,
Everything was just half done.

So it was Brown had to go,
Said he'd really like to know
Why he couldn't make some dough.

But you see his debts they got
Such a terrible big lot
Alas! to pay them he could not.

Take a lesson for your sake
Don't make such a big mistake
Be a farmer—wide-a-wake.

Hundreds are using Personal,
page 3.

Hundreds are using Personal,
page 3.

THE RECENT PANIC

America is a great and an extraordinary country. Whatever she does, she does in a big way. No other country has ever done as many big and extraordinary things as she has. When she goes in for a panic it's a good one; not a little flurry, not a little storm, but a good, stiff hurricane—one worthy of her vastness and her gigantic force.

Big storms, while extremely severe at the time, don't last long. They usually leave some wreckage behind, it's true, but the worst is soon over. The clouds quickly pass and the sun shines for all once more, and we feel better for it and appreciate more fully the daily blessings we enjoy.

The great financial hurricane that has swept across the land is over. It will take a little time to clear away the debris, but not long, for the wreckage has not been great, and the warm sun of prosperity will soon repair what damage has been done.

Let me repeat, America is a great country, and always does big and extraordinary things—this is the proof of her genius; and just as the panic stunned us all with its fearful suddenness and frightful severity, I believe, now that it has passed, we will have an exhibition of the country's great stability and recuperative powers that will astonish the world as much as the panic did.

It is idle to say there was no reason for the financial disturbance that has dislocated the trade of the country. It is senseless to blame any one man or any one thing for it. The truth of the matter is the country has been overtrading, by reason of too rapid expansion. The growth of business has been out of proportion to the increase in currency. There has been more business than money. The funds were not sufficient to go around, and the only way to make the money go around was to reduce the need of it, and that had to come thru liquidation. Liquidation revealed the weak spots; then the crash came; confidence was shattered, and the universal mistrust that followed led to hoarding. Money, which lubricates the wheels of commerce, having dried up, the wheels had to stop.

We have had two months of liquidation, and values are now down to a point where people are willing to take hold again. Money is slowly seeking its proper functions once more, and only requires to be encouraged to come forth in volumes. The great restorative is confidence, and confidence can only be created by the exercise of sane and safe business methods. The big financial men of the country know this, and I believe all business will now be done on a sounder basis than ever before.

Remember, this has been a money panic, not a hard times panic. We have suffered not from want of business, but from too much business. We have seen that too great prosperity can wreck trade, as it often does an individual; and he is a thoughtless business man who fails to learn the lesson.

CORN FOR NORTH DAKOTA

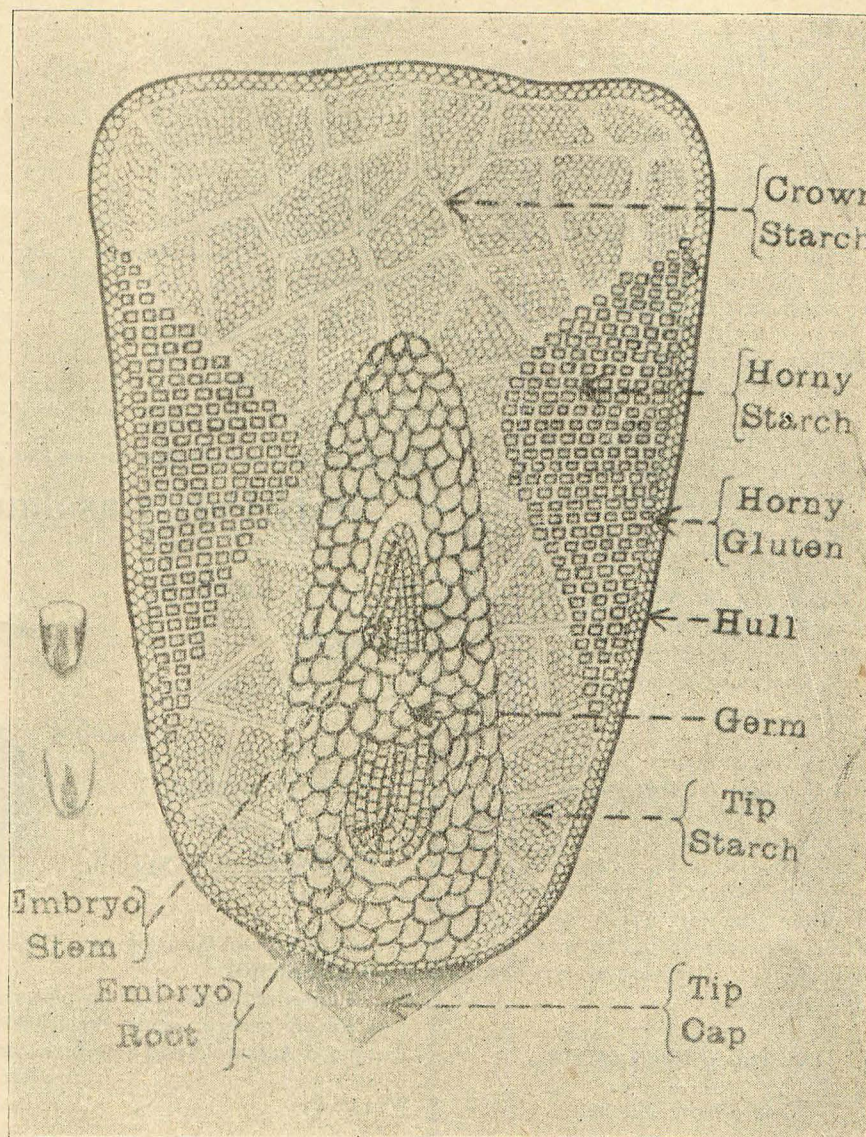
Diversified farming is the next step in the development of our state. Not only

coming year. The dent varieties are listed in order of earliness, as are also the flint varieties. The earliest flint variety is a little earlier than the earliest dent. The varieties here given have been raised at the Fargo Experiment Station, and some of them along the northern boundary of the state.

Dent:

(1) North Dakota 100. Eight rowed, deeply dented white kernel, cob white.

(2) Golden Dent. Ear short, well filled. Cob white, shank small. Kernel



A STUDY OF THE CORN KERNEL

All Boys Interested in Corn Culture Contest Should Read Personal on Page 3.

the farmers' success, but the prosperity of every business and profession depends on proper husbandry.

The following list of corn varieties suitable to North Dakota conditions, prepared by H. J. Hughes, an advanced student at the North Dakota Agricultural College, will be of wide interest at this time of year when farmers are securing seed and making plans for the

small, deep, wedge-shaped, rough, dented. Color, yellow.

(3) Minnesota King. Short ear of good type. Cob red, shank small. Kernel broad and flat. Color mixed white and yellow, tending to flint. Rows 8-10.

(4) Northwestern Dent. Well filled red ear with white cob, shank rather big,

crowns of kernels rather yellowish. Ear fair-sized rows regular.

(5) *Pride of the North*. Ear same as in (4), cob red, shank small, kernel yellow, wedge-shaped, dented. Rows many, slightly uneven.

Flint:

(1) *Squaw Corn*. Ear small, kernels many colored.

(2) *Will's Dakota*. Cob white, shank large, ear tapering, kernels round, rows regular.

(3) *Jehu*. Color, light yellow with white cob. Large shank, rows many and irregular.

(4) *Mercer*. Yellow of rich shade. Cob white, with large shank. Kernel wedge-shaped. Rows many and straight.

(5) *Triumph*. Yellow, long white cob with large shank. Larger than *Mercer*, and lighter shade of yellow. Many rowed and rows regular. Kernels broad.

(6) *Longfellow*. Same general type as *Triumph*, save that ears are regularly eight rowed, and the kernels are broader. *Longfellow* and *Triumph* are 9-12 inches long, and may easily be taken the one for the other.

(7) *King Philip*. Small red ear. Crowns tinged with yellow. Rows, 8. Well-shaped cob, large shank, kernels broad and not deep.

While other varieties may doubtless prove of value, these have been extensively tested at the North Dakota Station and have been found generally adapted to our climatic conditions. *Golden Dent*, *Longfellow* and *Triumph* are among the best, judged by type of ear.

A mature ear of corn, adapted to our climate, is firm on the cob; of rather small size, as viewed by the man from the corn belt; full from butt to tip, with tip well covered by kernels. An uncovered tip indicates a late maturing type of corn, as does also looseness on the cob. The cob should be solid, and weigh about 15 per cent of the total weight of ear.

FROM THE NATION'S CAPITAL

Guy Elliott Mitchell

The President's Virginia "Farm"

The latest pictures of "Pine Knot" the President's Virginia "Farm" indicate that it is far better adapted for a camp than for agricultural purposes. The fact is that it is intended and used as a small preserve where the Virginia rabbits and quail abound and where the lordly American Wild Turkey can also be found, altho the last-named is becoming a scarcer and scarcer bird.

Hundreds are using Personal, page 3.

Pine Knot is a most democratic sort of a place, not that there is not some of its land that would respond to the attention of some of the official farmers in the Department of Agriculture and probably a suggestion of experiments thereon from the White House would result in the transformation of the place; but this is not what is desired, even if the chief executive should so lay himself open to criticism. *Pine Knot* is to continue in its present class, where there is principally plenty of verdure, lots of space and unlimited quantities of pure air. Last week the hinges on the gate post did more swinging back and forth than for many months. No forbidding appearance bars the entrance; but a wire, easy to manipulate, flip-flops over the end of the gate, and one of the fence posts. The improvement of the year at this holiday retreat of the Presidential family has been the building of a new flight of board steps. The weather and not the Roosevelts had worn the first ones away.

Where the Crows Roost

A veritable manure pit is to be found at a point in Virginia within sight of the national Capitol. Every evening hun-

dreds of thousands of crows can be seen flying into a large piece of woods where is one of the greatest crowseries in the country. They come in from several points, flying in streams or regular channels, and seldom straggling out of the "beaten" pathway of the air. Viewed from a distance, every twig in the forest where they roost seems to be occupied by a crow and their cawing is deafening and can be heard for a mile. For a half hour before dark they are constantly rising, and wheeling and settling in thousands. After dark they can be approached within gunshot and a gun fired at them will cause them to rise with a rush like a tornado. The aggregate deposit of the roost is very great and would be extremely valuable did not the rains and warm weather of this latitude during the winter largely reduce its quality; the crows also move about more or less from section to section. By daybreak the birds are all off looking for food, scattering in parties all over the country for a hundred miles. During the daytime these same crows, which at night cannot be driven from their roosts are very wary and cunning and cannot be approached to

Hart-Parr Gasoline Traction Engine

CAN USE

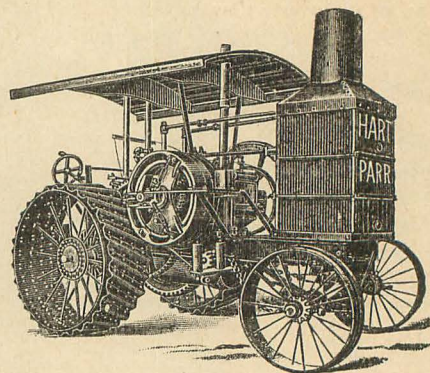
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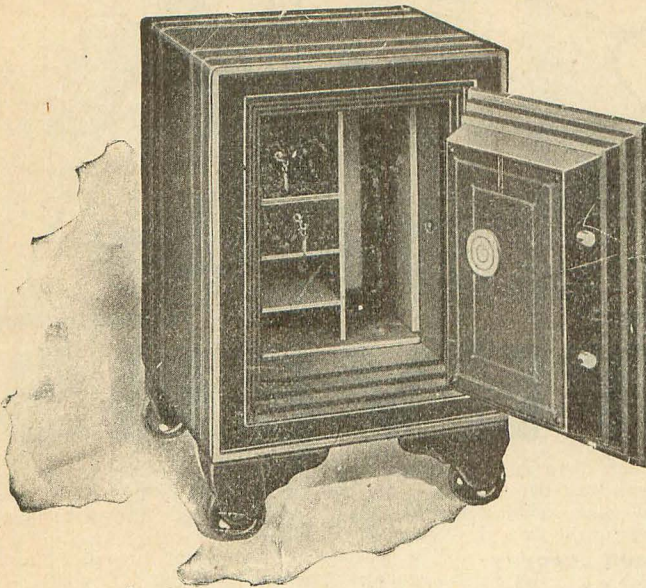
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We Carry a Full Line of Vaccine Virus and Serums.

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A Safe Proposition

OUTSIDE

High—28½
Wide—17
Deep—18½

INSIDE

High—15
Wide—10¼
Deep—11

We have bought a large number of these safes to advertise our Insurance Business and will sell them for **-35.00** as long as they last, and **WE WILL PAY** the **FREIGHT** to your railway station.

The safes are fire proof and just what you need for your valuable papers. At this price, you would have to send the money with your order, but the money would be refunded if the safe was not as represented.

We can refer you to the First National Bank of Fargo, and Union National Bank of Grand Forks as to our responsibility.

SEND
YOUR ORDER
TO

The Hatcher Brothers Corporation,

FARGO OR
GRAND FORKS,
N. D.

within gunshot range. After very severe spells of weather during which but little food can be secured, a hard freeze with the thermometer near zero, as it gets here several times a season, will kill off a good many of the birds and their shining blue-black bodies, but thin and gaunt, can be found under the trees in considerable numbers.

Changes in Climate

There has long been a controversy over the question whether the climate of the country was actually changing, some authorities claiming that extensive irrigation, tree planting, soil cultivation, etc., increase rainfall; others that the puny efforts of man can have no material influence on general meteorological conditions. That some such effects are produced appears to be shown in Kansas by F. H. Snow of the Kansas Academy of Sciences who in reply to an article by Prof. Willis Moore, Chief of the Weather Bureau, quotes his own records of the University of Kansas, Lawrence, Kansas, covering the past thirty-nine years, to show that there has been an increase of rainfall and humidity and a decrease in velocity of the wind.

Mr. Snow's observations indicate "a gradual change in the climate of Lawrence, Kansas. And as this locality presents a typical illustration of the climate conditions of eastern Kansas, it

is safe to infer that the same changes are taking place over the entire region of which it forms a part. The rainfall and atmospheric humidity have increased and the wind velocity has decreased. The change in the rainfall and wind velocity has been in each case more than 10 per cent, while the increase in the atmospheric humidity has been more than 6 per cent."

Value of Rye as a Green Crop

While nitrogen is the fertilizing element most easily lost from manures and soils, it is the most expensive, costing almost three times as much per pound as potash and phosphoric acid. The readiness with which nitrates are washed out of the soil during heavy rains when the ground is thawed, suggests that during the period of such rains, it should be covered with some catch crop, which will feed upon the nitrates formed and store nitrogen in its tissues. For this purposes rye is an excellent crop and is much used. While it adds no nitrogen to the soil which is not already found therein, as crimson clover does, it is a much surer catch than the former and is thoroly hardy. It forms quite a root system during the fall, starts off early in the spring and by ordinary planting time forms a heavy cost of manure to be plowed under. One office which rye performs is to absorb great quantities, while the ground is reeking with mois-

ture in the early spring.

What's the use of bringing in the harrow and the other field implements that are standing out in the field where last used? They'll be out there all ready to start work with in the spring. Spring isn't very far off, and besides, it would be a good deal of trouble to bring them in under shelter.

Potency of the Newspaper

The newspaper is the most potent factor of the present age. Often does the traveler, in passing thru the country, stop at a lonely farm house to get a draft of milk or water where he finds the old farmer and his wife living alone; the children have left and have families of their own. How narrow their lives seem as you imagine them going thru the daily routine of their simple duties. They seldom see anyone; they seldom talk to anyone who knows what is going on in the outside world; but do not make the mistake of thinking they do not know what is going on and what is transpiring from



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week in that world. Regularly they receive the news a weekly newspaper, or an agricultural paper containing a digest of the world's happenings. They greedily devour it; they read every line, they absorb every word and discuss every phase of the situations and policies being pursued, and instead of being antiquated fossils, they have their own strong opinions of the burning questions of the hour, and they can discuss them with you and hold their own and more too. They know something, not only about farming and crops, but about science, and manufacture, and politics and art and social life in other countries. While their lives seem enclosed within the four walls of their cottage, in reality their minds reach forth and view the great wide world of humanity and the medium thru which they look; or rather the mirror in which all these actions are reflected, is the newspaper.

Canadian Forest Destruction

The United States is not alone in its forest destruction. In his address before the Vancouver Forestry convention, J. F. Clarke pointed out the disastrous effects of the present methods of lumbering on the conservation of Canadian forests. He stated, in substance, that the present form of agreement existing between sellers and lumbermen places a premium on the destruction of lumber, and that the solution of the problem of conservation will be reached only when a system of sale of public timber is evolved and made effective by which the state and the lumbermen become partners, with mutual profit, in the work of renewing the forests by the act of logging the matured trees. This is in exact harmony with the plan proposed by President Roosevelt with reference to the handling of our great public timber domain in the west, but which Congress seems unwilling to act upon.

There are some large pumping plants in this country, and in the arid west in some places, water is very precious so that it is piped long distances; but it sets one to pondering as to what the size of the machine must be when it is known that there is a plant in Western Australia where 15,000,000 gallons a day is pumped a distance of 351 miles and 1200 feet above the point of supply. The water is used for mining purposes.

ASSOCIATION VS. TRUSTS

Association work, as we understand it, bears the same relation to trust control of business that a free government does to a monarchy.

The association aims to uplift and benefit the many engaged in business. The trust would wipe out the many, that a few might have an over-abundance. It is possible to harmonize business



STEVENS

firearms cost less than most guns, but they acknowledge no superiors at any price. You can trust the shotguns in the field or the hunt, or the rifles at the range or small game shooting, for sure, hard, straight hitting. They have more records to their credit than all other makes combined.

HERE ARE OUR LEADERS:

Little Scout,	\$2.25
Stevens-Maynard, Jr.,	3.00
Crack Shot,	4.00
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Favorite,	6.00

The superior qualities of our firearms for men is found also in our rifles for boys.

Send for our 160-page catalogue. It will tell anyone much that he ought to know about firearms and their proper care.

Send 5c. for postage.

If your dealer can't get you the genuine Stevens, notify us.

J. STEVENS ARMS AND TOOL CO., 40 Front Street, Chicopee Falls, Mass., U. S. A.

conditions so that many and not the few shall reap the profit under changed business conditions.

The association is a tower of strength when new conditions confront the trade. If its members have been true to its interests, which are their own, they have chosen as officers or leaders men of keen perception, who have perhaps seen the storm coming long before its breaks, and have given warning accordingly.

It is an old saying that when a new situation develops there is always found the man to fill it.

Too much praise cannot be given of their time and energy in building up associations for the benefit of their fellow brothers in trade.

The same amount of brains and energy put into their personal affairs would have in many cases netted them many dollars; but they keep right on working for the good of all to the sacrifice of their private business interests. Sometimes the sacrifice made was not even appreciated by those for whom it was made. But it makes no difference; they keep on working anyhow. There are men in the world to whom mere money grabbing is a sordid occupation compared to the uplifting, even in a small degree, of their fellow men. It is to such men the world owes what is best in its laws and institutions. Fools, some of the greatest were called in their day. It is possible they even thought so of themselves. But future generations rose to call them blessed.—William Smedley, in The Illinois Retail Merchants' Journal.

STOCK FOOD MEN TAKE ISSUE WITH THE EDITOR

By O. L. Sateren, Guarantee Stock Food Co., Grand Forks, N. D.

To the Editor of North Dakota Farmer,

Gentlemen:—We ask permission to reply briefly to an editorial in your November issue, under the heading "Stock Food."

The article in question was a reply to an article in the same number written by Prof. Thomas Shaw, on the subject of Condimental Stock Food and its uses.

Prof. Shaw's article is a fair and square treatment of the subject, and as to his version of the attitude of the Experiment Stations towards Stock Foods, it is also true, if we are able to understand them right.

However, you take issue with him, in your article above mentioned and it is a few points in that article to which we desire to reply.

In concluding your article you say: "Truthful statements, not misleading statements are what we need."

We fully agree with you on that point. Let the truth be known to the farmers, the whole truth and nothing but the truth.

The Manufacturer that cannot stand to have the truth known about his brand of goods, let him fall by the way-side.

In speaking of Stock Foods, you make

Boys Interested in Corn Culture Contests Should Read Personal on Page 3.

no discrimination between brands, and in this way, your edict will cover the "Guarantee Stock Food" as well as all the other numerous brands on the market.

As we can only speak for the Guarantee Stock Food, we are obliged to say that your statement about prices is wrong and very much misleading indeed. You say: "It is better economy to secure the services of a veterinary and let the animals have proper treatment, than to pay from \$500 to \$1200 per ton for products that can easily be prepared for one-tenth the price."

Let us look at it. The most expensive way for the farmers to buy Stock Food is in small packages. Anyone that knows anything about manufacturing of any kind of goods will know, that the smaller the container put up or packed the higher the relative cost. The reason for this is too plain to require any explanation.

Our most expensive package to the farmer, is our 50 cent size Stock Food carton. In this carton we put up just three pounds of stock food. In a ton of Stock Food there is 666 of these 50 cent sizes and two pounds over. 50 cents each for these 666 packages would be \$333 would it not? Now remember these are our most expensive packages and price computed in ton lots. How does this figure compare to your maximum price of \$1200 per ton?

Now to our price for larger quantity. We are selling one and two hundred pound drums for 10 cents per pound. This is our regular retail price. Now if a farmer should come to us and say, we want a ton of stock food we would very likely come down a little on this price.

But at our regular hundred pound price, a ton of our stock food would cost the farmers \$200. How does that compare to your minimum price of \$500?

As to the prices of Stock Food, we can only speak for the Guarantee Stock Food, and we admit that we make a profit, but that is what we are in business for. We are entitled to a profit, and as long as we make a legitimate profit only, we fail to see why we should be persecuted alongside of those who manufacture an inferior article at a fancy price.

When you say "it" can be produced for one tenth the price, we will again have to say that your statement is very far from being true as far as the Guarantee Stock Food is concerned. We are satisfied to make a small fraction of the profit that your statement would indicate.

Now as to the farmers ability to make his own stock food and save money, we have often stated that the farmers can-

not compete profitably with us. The reason should be plain to any thinking man.

We buy the ingredients that go into our products in car load lots direct from the mills. The roots, herbs and barks from the drug mills, the flaxmeal from the oil mills and the sugar and salt from the wholesale grocers. Where would the farmers be, buying these ingredients from the retailers; the drug ingredients from the drug stores, etc.?

The drug stores generally buy in too small quantities to buy from the drug mills. They buy from the jobbers and pay the jobbers' profit, which we save. The farmer certainly would not make any money by putting up his own stock food, if they put in the same ingredients that we do, leave alone the idea of putting it up for one-tenth the price.

In concluding we wish to say one word in regard to time for feeding stock food. We agree quite generally with Prof. Shaw on this point. We think it is a mistaken idea that stock need a condiment only when they are off the feed or ailing. Guarantee Stock Food is a nourishing as well as a laxative food. It does not contain any "dope." We think it is good for healthy stock as much as a laxative food is good for a healthy man.

This does not imply however that it is absolutely necessary to feed Stock Food all the time, but experience has taught us, that a good condiment is a good thing to feed now and then, even to healthy stock, and we think it will pay the farmers to do so.

Boys Interested in Corn Culture Contests Should Read Personal on Page 3.



Before submitting to an operation, or going to a Hospital, or Hot Springs, consult a reliable Specialist. Get cured at home cheaply, by our mail order system. Personal interview not necessary. If troubled with Nervous or Chronic Diseases of the Nose, Throat, Stomach, Liver, Bowels, Kidneys, Bladder, Catarrh, Skin Diseases, Exema, Acne, Rheumatism, Scrofula, Neuralgia, Sick headache and Vomiting, Billiousness, Dizziness, Heart Disease, Backache, Varicocele, Nervous Debility, Lung Troubles, Female Weakness, Spinal Disease, Paralysis, Epilepsy, Dyspepsia, General Debility, Hysteria, ask for our Free Examination blank and find out whether or not your ailment can be cured. Address, Dr. J. C. R. CHAREST, Huntington Block, 106 Broadway, Fargo, N. D. Therapeutic Specialist.

When You Have Hides, Furs, Wool, Sheep Pelts, Tallow, Etc., To Ship, Think of

The M. H. Redick Hide and Fur Company,
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The only resident Hide and Fur dealers in the state dealing in Hides, Furs, Wool, etc. exclusively. "Established For Nearly a Quarter of a Century." Send for Price Lists, Tags, etc. Sent Free. When writing this firm mention that you saw their ad in The North Dakota Farmer.

Hundreds are using Personal, page 3.

The apparatus required is an open iron tank, large enough to receive fence posts in an upright position. Shingles, stakes, and other small timbers may be treated in the same tank.

The cost of the treatment, after the apparatus is ready, depends upon the size of the timbers and whether the entire posts or only the butts are treated, and the thoroughness of the treatment. Where freight rates permit the shipping of the preservative at a moderate expense, the total cost of a treated post of old field pine, lodgepole pine, cottonwood, or similar timber, ought not to exceed that of a high grade post in its natural state, and is often less.

The government considers the investigations in the preservative treatment of timber of such importance that the business of one branch of a bureau in the Department of Agriculture—the "Office of Wood Preservation" in the Forest Service is given over entirely to the work of experiments in cooperation with railroad companies, mining corporations and individuals in prolonging the life of railroad ties, mine props, bridge timbers, fence posts and transmission poles. Advice and practical assistance is furnished all who request it of the Forester. The lengthening of life of timber means the saving of thousands of dollars annually thru doing away with the heavy expense of labor and cost of material for renewals.

SURFACES OF SOIL GRAINS

Prof. F. H. King gives a lucid illustration of the division of soil grains which is here repeated in abbreviated form. "A marble one inch in diameter that will slip inside of a cubic-inch box presents 3.1416 square inches of surface; reduce the marble to one-tenth of an inch in diameter and 1,000 of them will be required to fill the same box. The surface of these 1,000 marbles will be 31,416 square inches; reduce the marbles again to one one-hundredth of an inch and 1,000,000 marbles will be needed; and reduce to one one-thousandth of an inch and 1,000,000,000 will be required to fill the cubic-inch box, the surface of which, if spread out flat, would equal 31,416 square inches, or, in a cubic foot, 37,700 square feet, or seven-eighths of an acre. In a soil with grains one one-thousandth of an inch in diameter there will be nearly $3\frac{1}{2}$ acres of surface in a section of soil one foot square and four feet deep. Such a soil four feet deep is capable of holding back from drainage water equal to 12 to 16 inches of rainfall, about half of which is available for the use of plants. Soil grains, like large rock and boulders, are of all shapes and sizes, and we must think of them arranging themselves more

like potatoes of mixed sizes in a basket than like marbles or oranges in a box. The more uniform the arrangement the greater the surface exposed in the spaces between the soil grains, and the surface determines the amount of water a given bulk of soil will retain without excluding the air.

BAD ALFALFA SEED

Much inferior alfalfa seed has in the past been sold to the farmers and F. D. Coburn, Secretary of Kansas State Board of Agriculture recently gave out the following interesting statements:

I can render alfalfa growers no better service in one brief communication than to urge upon them, with emphasis, the utmost caution and painstaking in securing none but the highest quality of seed. This quality means not only seed demonstrated as ninety or more per cent germinable, but free from the adulterations and impurities likely to be found present, most frequently from carelessness or shiftlessness, but often from design, and sometimes from both. Alfalfa seed is expensive at best, and doubly or trebly so if it will not grow or carries with it trash and quantities of other seeds which stock a field, a farm, or a neighborhood with weed pests that interfere with or crowd out the alfalfa, displace expected profit with positive loss, and provoke profanity.

Recognizing the fact that much of the seed on sale is entirely unreliable, the Agricultural Department at Washington, and some of the more wide awake experiment stations, have been making tests to discover the defects and values of seeds ordinarily found in the markets, and startling revelations are the result. The Washington investigators, for example, found in one pound of so-called alfalfa seed on sale, 32,420 noxious weed seeds; in another 23,082, and in still another 21,848. Of the first named pound less than 59 per cent was

alfalfa; less than 29 per cent was germinable, and among its impurities were 5,490 seeds of dodder, surely the devil's own invention. One pound of another lot contained only a fraction over five per cent that would grow, and a third lot only slightly over six per cent.

The Ohio Station bought for testing over fifteen different samples, a dollar's worth each. A pound from one of these carried 18,144 lambs quarter or pigweed seeds, and another 6,420 seeds of crab grass and 3,325 of foxtail. Seed supposedly costing \$7.80 per bushel was when cleaned, found to have cost actually \$12.74 per bushel.

Of course, as a matter of fact, where bad seed is sown the actual result is a week, poor stand of alfalfa and a dense growth of weeds. The land has to be plowed up and re-seeded, and the use of the land for the year is lost, and it has become foul with weeds, many of which will be newly introduced and noxious in character.

These findings pointedly suggest that it is safe to buy seeds of only a thoroughly reputable dealer or grower whose name and guarantee stand for something. Get samples early and test them. Learn positively that it is alfalfa seed, and not something else, and that it will grow. If more than 10 per cent fails to grow don't buy it, for something is wrong. Choiceseed, the only kind worth buying, always commands a good price, and is worth it. The Agricultural Department at Washington, or your State Experiment Station, will test samples of seeds sent, and report on them without charge.

WILL YOU SELL YOUR FARM?

Buyers waiting. Send us the address of a few people who wish to sell and we will send you our paper 3 months **FREE**. It tells how to make quick sale. Address, **FARM AND REAL ESTATE WORLD**, 400 Cleveland ave., Chicago. III.

Shade Trees and Gardens.

C. B. Waldron, N. D. A. C., Editor.

QUACK-GRASS, HOW TO HOLD IT IN CHECK

Quack-grass (*Triticum repens*) is spreading rapidly thruout the Northwest because of present agricultural methods. The weed would not prove such a menace in a country of greater pasture requirements and of more intensive cultivation methods. Continuous growth of cereals, loosely handled, gives this weedy grass every opportunity to develop. When a area is once in-

fectured the plant is soon dragged to all parts of the farm. As with certain other weeds that have become general, most farmers are paying but slight attention to small patches, others are much disturbed about the rapid spread, and yet others are already awake to the fact that they have the weed almost general upon their lands and are now getting correspondingly lessened yields of grain at a much greater cost.

Quack-grass is not native of North Dakota. It is being introduced by wind-blown seeds, by adulterated grass seeds and other farm seeds, in hay and other forage shipped to new localities; and is being planted in new areas by means of improperly cleaned seed grain, improperly composted manure and thru the dragging about of the broken underground stems upon harrows, plows, and other implements. This grass never dies out in fertile lands. It grows latest in autumn and starts first of all grasses in the spring. It forms a sod impenetrable by other plants. It can crowd out brome grass, alfalfa or other cultivated plants.

Its chief body is an underground branching, jointed stem, the root-stock, in which much reserve material is stored during the season of growth. Thru the vitality of the underground stems the plant is bridged over droughts and other hard times; the lower sheaths of the young leaves are usually purple in color near the ground line.

To give advice to farmers whose lands are now over-run by this grass may seem as tho adding insult to unavoidable injury, for to quack-grass extermination there is no easy road. (No spraying method for eradication of this grass is economically possible while other crops are to be grown.) Direct application of salt to the areas have not proven satisfactory.

What to Do

(1) If in small patches up-root in dry hot weather and as far as possible, remove all underground stems. Visit the area once every eight or ten days and remove every apparent spear of grass with the attached underground stem.

(2) Or, cut off in July and cover closely with tar paper so as to quite exclude the light. Allow the paper to remain there thru July and August, then plow deeply.

(3) Or, cut off closely in July and cover deeply with straw or manure. Visit the areas often. Dig up any scattering plants not covered.

(4) If in large areas, mow off when in blossom, break the sod shallow (not to exceed two inches) in mid-July. Back-set in mid-August at a depth but slightly deeper than before. Then disc and

harrow thruout the fall never allowing any green leaves to show. Then plow deeply in the late fall. Plant a cultivated crop the following season and follow the cultivator with a hoeman who looks for every spear of the grass. Or, after thoroly preparing the seed bed in the spring give it a heavy seeding of German millet, say, two to two and one half peeks of good seed (preferably sown broad cast). Sow the millet late in May. At no time during this process of field preparation should the quack-grass be allowed to show green and if possible the ground should never be worked while wet. The drier the ground and hotter the weather the better the killing effect of the cultivation. Any annual forage crop which will

give a dense and rapid growth may be substituted for millet tho I think it has no equal unless it is fodder corn sown broad cast.—Press Bulletin, N. D. Experiment Station.

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North Dakota Farmer

AND SANITARY HOME.

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If this paragraph is marked your subscription is out. Before re-mitting read **PERSONAL** on page 3. We are trying to help you in your farm life.

CONFUSED PRICE-MAKERS

J. Ogden Armour, king of the packers, says prices paid farmers for livestock must go lower. He says we must get down to a basis where living is more economical, and, like all of his class, he looks to the producers to stand the reduction. Everything has been on a high scale, he says, and with all the livestock on a lower basis it will ultimately be reflected beneficially to the consumer. Mr. Armour does not choose his words well for his side, but on the side of truth he chooses them better than he thinks. Lower prices for livestock might "ultimately," finally, after a long time, in the wind up, be "reflected," thrown back dimly, from the real benefit of the packers, and result in a kind of moonshine benefit to the consumers. Mr. Armour knows how often prices of livestock go down and prices of meats go up at the same time.

To explain this has been a frequent source of worry to the arbitrary price-makers. Mr. Cudahy of Omaha, says the trouble is that hides have gone down on an average of about \$5.00 to the hide, and the packers have to charge more for the meat to make up for what they lose on the hide. Then when you get after the shoeman for the high price of shoes, he tells you the price of leather has gone up. It is next in order to get an explanation

from the leather man, and he dodges Cudahy by saying tan bark is getting scarce, and meat is so high it costs more to live, and he must, therefore, charge more for leather.

And there you have it. Everything finds an excuse to elevate his prices except the farmer, and he, poor man, can give no cogent reason why his should not be reduced. He may kick and growl, and feel that there is a wrong done him, but all the same he rushes his stuff off as soon as it is ready for market, and dumps it at the prices offered. And if anybody attempts to show him a better way and arranges a plan by which he could save himself from the greed-made low prices, he turns the toe of his high-priced boots, made of high-priced leather, tanned from low-priced hides, upon that meddlesome fellow and "boots" him one or two—maybe half a dozen!

And then he sits down and sweats while he listens to Mr. Armour declare that "The farmer is the fellow who has been making the money by getting high prices, but it looks as tho he will have to sell his stuff lower." Always lower for the farmer, but higher for everybody else. The farmer could "turn the tables" if he would. Who is to blame if he don't?—Up-to-Date Farming.

DRINKING WATERS

In many parts of the state the surface well waters contain a great deal of alkali salts, Epsom salts and Glauber's salts. Some times only one of these salts will be present; at other times, large quantities of each, but nearly always there is present considerable common salt.

A good drinking water is very desirable and essential for good health. A water that contains more than 500 parts per million is not to be classed as good water, and a water that contains as much as 1,000 parts is unfit for young children or elderly people, or for those who are suffering from indigestion, kidney trouble or just coming up from a long siege of typhoid fever. Nevertheless, there are drinking waters used by people living on farms in this state that contain 5,000 parts per million. Frequently their horses suffer from colic, and besides other farm animals suffer from the use of such water.

It is well to have your water examined and know just what it contains, and then you are better prepared to determine whether the water may be the source of trouble, either for the family or the stock. The Experiment Station at Fargo, N. D., has examined during the past year nearly 175 samples of waters for farmers of the state, and we advise our readers to take steps to have their water examined. They should

first write to the Experiment Station for information with regard to sending the water.

If there are young children that are troubled with colic, indigestion, or who are naturally weak, it might be well to consider whether the water is not the source of trouble. Or, if there are those in the family who have weak kidneys, kidney trouble of any kind, dyspepsia, etc., it may be that the water is the aggravating cause of this trouble.

In such cases, if good water cannot be had, steps should be taken to distill enough water to supply those who are least able to use waters heavily charged with such salts.

In Bulletin No. 66 of the Experiment Station, attention is called to water that contained such a large proportion of Glauber's salts that the use of this water by horses would simply mean frequent attacks of colic. Other waters are charged with alkaline carbonates, which are a source of irritation.

The question has frequently been asked how such waters may be purified to make them better for drinking purposes. A water that is charged with alkaline carbonates cannot by any filtration, boiling, or chemical treatment be made more wholesome. Where such waters are found they can only be purified by distilling, and then it would be better to distill rain-water, if possible, river water, or some less objectionable product for the use of the family.

BE A TOP-NOTCHER

Why not be a top-notch? A top-notch is simply an individual who works for the institution of which he is a part, not against it.

He does not wear rubber boots and stand on glass when he gets orders from the boss. He is a good conductor, and thru him plays the policy of the house. The interests of the house are his—he is the business and he never separates himself from the concern, swabbing the greased shute, by knocking on the place or management.

A top-notch never says inwardly, or outwardly, "I wasn't hired to do that," nor does he figure to work exactly eight hours, and wear the face off the clock.

He works until the work is done and does not leave his desk looking like a map of San Francisco after the shake-up.

As a general proposition, I would say that top-notchers and cigarettists are different persons. A top-notch prizes his health more than a good time. Sore heads and belliakers are usually suffering from overeating, lack of oxygen and loss of sleep.

If you want to be a top-notch beware of the poker proclivity and pool-room habit—otherwise destiny has you on the list.—Elbert Hubbard.

STRAY STRAWS SOMETIMES TELL

Instead of groaning about possible hard times, why do you not get to work and see what the consuming public demand and then set about to supply it? Have you eggs to sell? Then find a regular customer who will be glad to take them the year around at a good price. Do you make butter of good quality? Then why not have a few regular customers to supply and so get top prices for the product?

It pays to care for the little things, for after all it is from the little things that the real profit has come at the end of the year. It pays to be gentle with the cow, for a little harshness and she holds up her milk and soon forms the habit and you are the loser.

Do you give any real thought to what is demanded by the consumer regarding pork? Hogs pay well on the farm and pigs weighing dressed each 150 pounds sell well to town people when cut in halves. Why not smoke the bacon and hams and find a good city customer for these?

Said Hubbard: "Folks who never do any more than they get paid for, never get paid for any more than they do."

There is lots of truth in that statement. Did you ever philosophize over it, young man. Well you should if you want success.

According to the Baker's Weekly, the National Association of Master Bakers at their Chicago Convention passed resolutions to the effect that the millers ought to brand all bleached flour with the words "Bleached Flour." Looks like this would be telling the truth, but why these "midnight sessions" to head off the publishing of these truthful resolutions?

The truth is the sale of bleached flour ought to be prohibited.

How about the Farmers' Institute in your county? Was it as much of a success as it should have been and were you benefited by attending the meetings? If not then there is something lacking in your community. Wake up and find out what it is. The day at the Institute should be the most profitable of the year. Perhaps you were not prepared to get any real, practical benefit when you went to the meeting. Then you should set to thinking and see what is wrong.

What a delightful fall we have had in North Dakota. But once before Christ-

mas did the temperature fall below zero and then but one degree. Sixty days of continuous sunshine and warmth means work well done in the fall; cattle and sheep in good healthy condition and a bright future for 1908 and a bountiful crop if we but do our part. Plant and plan as tho the season was to be of low rainfall and then you will be prepared to have a good crop under any circumstances.

There is a great difference in durum wheats so far as their milling value is concerned. Efforts should be made to find out the best strains which produce well and then to develop these and thus improve the flour producing value of the wheat crop. It is said that many of the mills are grinding from 10 to 25 per cent of durum wheat mixed with fife and bluestem, bleaching the flour and selling at fancy prices. Then why should they not pay the farmer the same for the durum wheat as for other grades?

Cut out the middleman as far as possible, and get a part of his profit and at the same time you will help the consumer. Merchants who would buy for cash were paying 40 to 45 cents per bushel for potatoes and selling at 60 cents. A farmer bought mine for 55 cents, I saved five cents per bushel and the farmer made easy 10 cents per bushel. The middleman was cut out and the farmer and consumer alike were benefited. Why not do more of this? Be your own merchant, have a few good customers and get ready cash.

Every farmer who is willing to begin small and develop good business can find profit and pleasure in growing and putting up canned products in tin. We often think that this work can only be successfully done in a well equipped factory. This is not true. A simple outfit devised largely at home is all that is necessary and the tin can can be purchased in any quantity ready for use. Corn, peas, beans, pumpkin, fruits, beets, currants, goosberries, etc., can all be successfully canned. We have made the experiment and know of a fact.

The millers claim they only bleach flour for the bakers' use and not for the housewife who does not want bleached flour. It is said that the housewife makes in this country 84 per cent of the bread and the bakers only 16 per cent. The millers say that 75 per cent of all the flour is bleached at the present time. This looks like a conflict in statement. Why do they bleach 75 per cent of all the flour produced when the bakers only take 16 per cent of the output? Mr. Miller will have another guess coming

or else he is straight lying. Looks like the latter.

Are you going to try and improve your seed grain for 1908? If so how will you go about to do it? It has been repeatedly shown that seed wheat may be greatly improved by selection. Men have nearly doubled the yield by selection and care.

If you have no better way of selecting then take a few bushels of your best seed wheat and throw handful by handful as far as you can. The oats and light seed will fall behind and the seed which goes furthest will be the heaviest and best. This seed sown on a good piece of land will give you a start for future good seed.

Remember the sheep, cattle and horses all need salt regularly just as you do at your meals. Then why not see that they are well provided with lump salts, readily accessible to them when needed. It means money in your pocket. On a warm day the cattle will relish it to have a little water containing salt in solution sprinkled over the coarse fodder. They will eat the fodder with a relish and thus get the salt they need.

Professor J. H. Shephard said at the opening of the St. Paul stock show:

"That North Dakota is a productive state no one will dispute, but she produces something besides golden grain, as does every other state in the union. There are enough weed seeds and screenings grown to fatten all the sheep in North Dakota and thousands besides. True, the North Dakota agricultural college is doing much by way of experiment in killing weeds by means of chemical spray, but as yet this work is rather uncertain. There is no uncertainty in the fact that sheep will do well on weeds, and that many a farm in the United States, foul with noxious weeds, has been cleaned up and made to blossom as the rose when sheep have been kept upon it for a few years. In order that we may keep up the fertility of the soil and keep the farm free from weeds, the question simmers itself down to simply a matter of getting into live stock raising.

"A rotation of crops will naturally come with stock raising and one of the strongest features of the rotation system is the fact that it does away with the destructive insects to a large extent. In a properly planned rotation the field is seeded down to grass every few years and the destructive bugs cannot live upon grass and consequently die out."

Hundreds are using Personal,
page 3.

STOCK FOODS AND THEIR PLACE

In the present issue of the North Dakota Farmer the Guarantee Stock Food Company take issue with the Editor as to the proper place and function of stock foods. In the November issue of the North Dakota Farmer we said:

"Bitters and tonics have, no doubt, served useful purposes as appetizers for man in a run-down condition. So, like tonics and appetizers will serve a useful place in animal economy in times of need."

This point we do not deny, but we do maintain, as we have stated previously, that many of the stock foods upon the market have been sold at exorbitant prices, and some of these stock foods have been the waste products, almost worthless, from flour mills. Others have their merit, and the time has come when the public are demanding to know

that keeps the freest from all such products, is properly exercised and nourished to keep in health. When tonics and bitters are needed, then such may be used with advantage. In the case of the animal, the same is true, and the legitimate stock foods under these conditions and at these times may prove helpful and valuable.

Let the stock foods, then, be used as they should be, as a tonic, and at times when animals need such tonics, and not as is too generally recommended by the producers of these products.

NATIONAL GRAIN INSPECTION

President Roosevelt in his annual message took occasion to say regarding national grain inspection that:

"The grain-producing industry of the country, one of the most important in the United States, deserves special con-

commerce as a remedy for the present evils."

As showing his interest in the country districts and as indicating something of the great problem that confronts the rural districts he said:

"I believe it is good policy for our Government to do everything possible to aid the small town and the country district; it is desirable that the country merchant should not be crushed out."

DO YOU AGREE WITH THEM?

Churchs Ferry, N. D., Dec. 3, 1907.

W. G. Crocker,

Managing Editor, N. D. Farmer,
Lisbon, N. D.

Dear Sir: I am constrained to offer a few words: Your North Dakota Farmer is a journal of true merit. Its columns are bristling with information that is proving of the highest value to the thoughtful cultivators of the state, as all facts and teachings are along scientific and practical lines. In order to secure good and remunerative crops from our lands which have been under cultivation for the last twenty-five years, they must be fertilized, and your paper is telling how that can be done in the best and most economical manner. I am pleased to know that President Worst, with his wealth of agricultural knowledge, will soon present an account of the results of intensive farming in the old country, as learned by study and observation on his European trip. It cannot but prove most instructive to our North Dakota farmers.

I am personally acquainted with President Worst and many of the professors of the Agricultural College. All have done and are doing much for the agricultural development of North Dakota. My noble and valued friend, Prof. E. F. Ladd is doing a good work as Editor of the North Dakota Farmer, and is rendering our state the best of service as Food Commissioner, "the right man in the right place." I rejoice because of the comprehensive food laws of North Dakota and because Prof. Ladd is authorized to put the same into execution in the interest of the health and welfare of the people of our commonwealth.

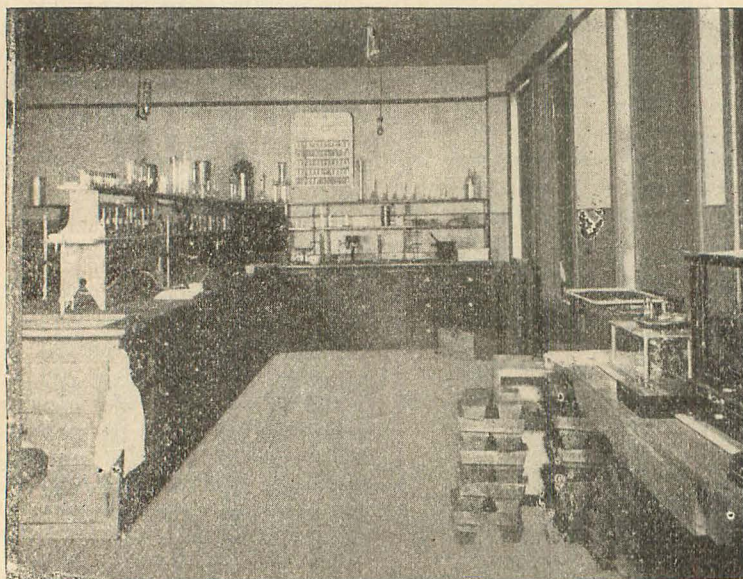
Yours for the higher development of the resources of North Dakota and the west,

W. W. Barrett.

N. D. Farmer, Lisbon, N. D.

Dear Sirs:-Enclosed you will find \$1.05 for which please send your paper to me for the coming three years, also the stereoscope and views to Dora Gemmill. I couldn't get along without your paper. I think it makes me one hundred dollars every year.

R. G. Gemmill,



Pure Food Chemical Laboratory, N. D. A. C. What Would Some Manufacturers Give to Control the Analyses of This Laboratory?

as to which are valuable and which are not, and they have a right to know. Stock foods are like patent medicines; many of them we believe are fakes and downright frauds; others have a legitimate place when properly used. Let the farmer bear in mind, however, that no stock food should be fed regularly and continuously, any more than should a patent medicine. Just as surely as one depends upon patent medicines to stimulate and keep up the flagging system to a high-pitch, he will come to be a physical wreck and the system will fail to respond to the use of medicines when most needed. There are patent medicines that serve a useful purpose when properly used, and so there are stock foods which may at times be used with advantage, but not continuously. The system does best

sideration at the hands of Congress. Our grain is sold almost exclusively by grades. To secure satisfactory results in our home markets and to facilitate our trade abroad these grades should approximate the highest degree of uniformity and certainty. The present diverse methods of inspection and grading thruout the country under different laws and boards, result in confusion and lack of uniformity, destroying that confidence which is necessary for healthful trade.

"Complaints against the present methods have continued for years and they are growing in volume and intensity, not only in this country but abroad. I therefore suggest to the Congress the advisability of a national system of inspection and grading of grain entering into interstate and foreign

Livestock Department

PROF. W. B. RICHARDS, Editor

HOW THEY BREED FEED AND MARKET THEIR BEEF CATTLE ON THE HELENDALE STOCK FARM AS TOLD BY J. A. POWER, MANAGER.

We believe that there is a middle line in beef making between the full feeding and the no feeding methods. One naturally hesitates in running counter to the generally written advice to cattle men to finish stock before marketing.

We have bred and handled cattle at Helendale for 25 years and have put some thought into the business. We have found it generally profitable, but we had to work out our methods to suit our conditions. There are times when we have found, for instance, that it is often most profitable to sell cattle off grass; sometimes we think it best to partly feed them, but not very often have we believed it best to feed for a long period. I will confess tho that the feeding we have done has been profitable, but in most cases we fed under very favorable conditions and the cattle were well sold.

We are all after the most profits in the business and probably but few have worked out methods that will always give it, certainly no laid down rule will work equally well every year and for all parts of the state or for different conditions in the same locality. As a general practice we would say that the safest profits will come from a method of only partial feeding, say to the extent of bringing cattle to a quality under that of finished stock and, in steers, to make them of the quality that butchers will compete with the feeders for them.

Following out this idea we have found that we could handle stock very nicely and profitably as follows. We sell generally in the Fall and, if not selling off grass alone, we sort out about Sept. 1st the cattle we wish to dispose of and put them into a good lot of 2nd growth tame grasses and in addition feed them there some snapped corn, with possibly ground feed and bran. This style of feeding will put on remarkable gains at the lowest possible cost and will run about 100 lbs. to the month, per head. Selling in the Fall gives us the advantages of the cheap summer pasture gains also, that will aggregate at least 200 lbs.

This way of handling the sale cattle does not finish them but it does give them a very fine warming up and increases their weight and appearance and value at the very smallest cost for maximum results. They are sold before

cold weather sets in to check large gains and they do not require the labor cost that comes when cattle are barn fed.

We breed enough cattle to sell from 1 to 4 cars a year. Our way of caring for them up to selling time does not vary from that generally practiced. We believe and practice the following rules. The use of good bulls and cows, the value of sheltered yards and the use of barns that can be conveniently fed and cleaned, the use of plenty of rough fodder and plenty of pasturage.

Our calves are dropped in April and May and run with their dams till about November 1st. They are weaned gradually that they may accustom themselves to eating grain before being entirely weaned. The first winter they run in roomy barns and sheds that are well bedded and cleaned every other day. They have all the hay they will eat and they are given 3 to 4 quarts of ground feed and bran, fed twice a day. They are fed till about the middle of May.

The next year they are not fed as yearlings, unless some are thin and need it. All our stock run loose in barns and sheds and these are cleaned every other day and the grades are fed only hay at night in the barns. Day times, in the winter, they are let into sheltered yards where they run to large straw stacks and are fed corn fodder in the bundle and some hay on the ground. We grain therefore only the calves, the thin stock and cows that have late calves on them.

The cost of handling stock like this we have carefully computed. Last year, for instance, the average cost of keeping our grade cattle was \$7.95 each, throwing out the cost of a bunch of grain fed steers, the cost of the bulls' keeping and that of the milch cows. We charge to these cattle the actual cost of the making of the hay and corn fodder fed to them, of the labor and cost of their board that is put on them, and the market value of the grain consumed. In addition to this they are charged with the pro rata cost of the General Expense account of the farm that includes such items of expense that is not chargeable to any one department or to any special produce, like the taxes, repairs of buildings and fences, living expenses of the family, etc. A calf when dropped, would therefore, cost us about \$8, \$16 at one year old, \$24 at 2 years and \$32 about at three. We believe that there is greater capacities for making high values at three and over than to

sell at two years old and our good steers are kept till they are 36 to 42 months old when they are expected to weigh about 1300 lbs. We sell our poorest females at any age, and our shy breeders or those which produce poor calves when ever they are in condition.

This year we sold our steers off grass on account of the high price grains and the best of the steers sold at St. Paul for four and one-quarter cents. Last year the grass steers sold from three and one-half to four and one-quarter and some fed steers at \$5.80. It cost us \$30.10 each to feed these steers and they had to bring us a good price to make any profit.

We have never fed really finished cattle and I know but few who have, in this state. Profs. Shepperd and Richards in their bulletin No. 73 have an interesting report on this matter of full feeding steers and they show a profit in so doing, even tho their steers did not sell very high. The profits in this case seem to have been due to the fact that they fed good quality steers.

It is my opinion that we are too far from the Chicago markets. The consequent shrinkage that comes from the stock being 48 to 60 hours enroute spoils their appearance and greatly reduces weight, which is a handicap hard to overcome. Illinois and Indiana farmers may often be able to load their cattle at night and have them sold at 10 A. M. next day. It is easier for them to buy their feeders and get an even quality and even-sized lot and their corn for grain is cheaper than it is with us in same form.

We have found it difficult to find the right sort of steers for feeding unless we breed them. There is no doubt that our winters are somewhat against the average farmer for sheltered yards are an absolute necessity and we need the best of facilities, besides some cheap feed, the best sort of steers, and favorable market conditions when sold if we will make a profit commensurate with the additional risks we assume in trying to finish.

It is our idea that situated as are most of the N. D. farmers, that they can grow beef into weight rather than to feed it into weight. In other words 1300 lbs. may be made in 46 months cheaper than it may be made in 36 months and it will be of nearly equal value per pound. The weight is put on by the use of our specially cheap corn fodder, and nowhere else is pasturage or hay produced much cheaper. These feeds will not make fat cattle but they grow good frames and good weights and they then may be finished for market as I have stated before.

Cattle may be bred and fed here so that they will give to the average farmer a safe and sure profit every year.

It would be my guess that right now

cattle are the best thing to buy and the poorest to sell. It has also been our experience that the grade herd has made us more money than the pure-bred herd and it will net us at least 20% each year.

CUTTING UP A HALF OF BEEF

D. A. Gaumnitz, Asst. Prof. of Animal Husbandry, Minn. Col. of Agr.
(Photos by H. D. Ayer)

The two major principles to keep in mind in cutting up a beef are, first to

bone and should be just below the pelvic bone.

Cutting Up the Parts of the Hind Quarter

The Flank, A. Remove the superfluous suet from the flank. Then cut it into pieces of suitable size for stewing or boiling or else roll it for corning.

The Loin, B. The cuts of the loin vary according to the uses for which they are intended. It constitutes the best part of the carcass, and from it steaks and oven roasts are usually cut. For steaks begin at the butt end (5-6) and cut steaks of the desired thickness

The Shank, G. The shank is cut up into pieces about 4 inches long for soup bones.

Dividing the Front Quarter Into Parts

Lay this on a bench or block outside up. Remove the shin by the cut 11-12. Remove the plate by cutting from point 3 (Fig. I.) which should lie about 10 to 12 inches from the spinal column, to the arm pit 13; then downward between the third and fourth ribs to 11 and then to point 12. Next remove the cross ribs by the cut indicated by the line 13-14, which should be parallel to, and about $4\frac{1}{2}$ inches above 11-12.

Remove the prime ribs by cutting between the 5th and 6th ribs, indicated by line 15-16.

Then separate the chuck ribs by cutting between the first rib and the arm bone (line 17-18) making the cut as nearly parallel to 15-16 as possible.

Separate the shoulder from the neck by the cut 19-20, which should be made about $5\frac{1}{2}$ inches from 17-18.

Cutting Up the Parts of the Front Quarter

The Plate, H. If this is to be used for stewing or boiling, cut it up into pieces containing two ribs each, then cut these pieces into suitable size for use. If corned the same cutting will answer.

The Cross Ribs, I. If the piece is large, divide it into smaller ones by cutting parallel to 11-12. The cross ribs make an excellent pot roast or boiling piece.

The Prime Ribs, K. Beginning at the rear end cut this up into pieces containing two ribs each. This will leave just one rib in the thick end at 13-14. In each piece, loosen the "feather" or spine bones carefully, and cut them off at the spinal cord. Saw thru the rib bones, every four inches, taking care not to cut the meat any more than is necessary.

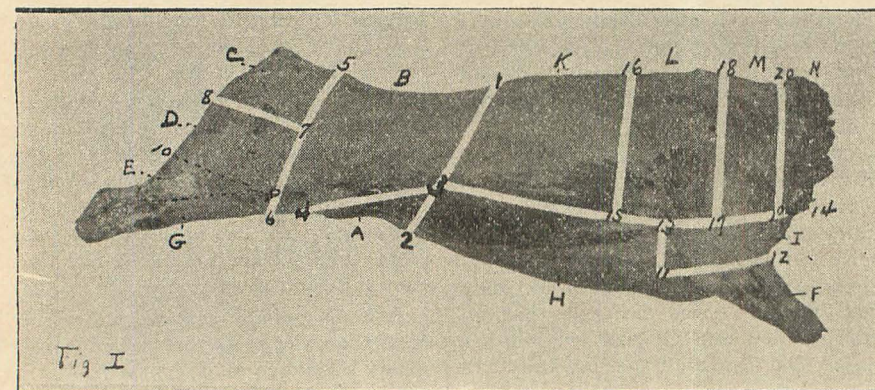


Fig. I. Outer side of half of a beef, showing the divisions into which it is cut. A, Flank; B, Loin; C, Rump; D, The Round; E, Pot Roast from Round; F, Shin; G, Shank; H, Plate; I, Cross Ribs; K, Prime Ribs; L, Chuck Ribs; M, Shoulders; N, Neck.

separate the thickly muscled pieces from the thin muscled ones, the tender from the tough, and second, to cut across the grain of the meat so much as is possible, and still make these separations.

To enable the reader to better and more easily understand the process, the cuts to be made in each half of beef have been numbered consecutively in Figure I, and the parts lettered.

For convenience in handling, after the carcass is cool separate the front from the hind quarter between the twelfth and thirteenth ribs, as indicated by line 1-2 on the figures I. and II. This leaves but one rib in the hind quarter, the purpose of which is to hold the loin in shape while it is cut for steak.

Dividing the Hind Quarter Into Parts

Lay the hind quarter on a bench or block with the inside up. Remove the kidney fat, as shown in Fig. II. Next remove the flank, by making the cut 3-4 Fig. I. and II. If the animal is thin of flesh make the cut higher up, leaving more of the thin meat in the flank cut. Turn the inside of the hind quarter up and separate the loin from the round by the cut 5-6. The point of five should be about six inches from the tail and the cut made in front of the hip joint.

Turn the round over and separate from it the rump by the cut 7-8, which line should be parallel with the back

parallel to 5-6. For roasts, cut the pieces from $4\frac{1}{2}$ to 6 inches in thickness.

The Rump, C. This should be cut into two pieces parallel either to 7-8, or 5-7. It makes a fine pot roast, and is also good for corning.

The Round, D. The upper 8 to 12 inches may be cut into steaks or oven roasts. These are cut parallel to the

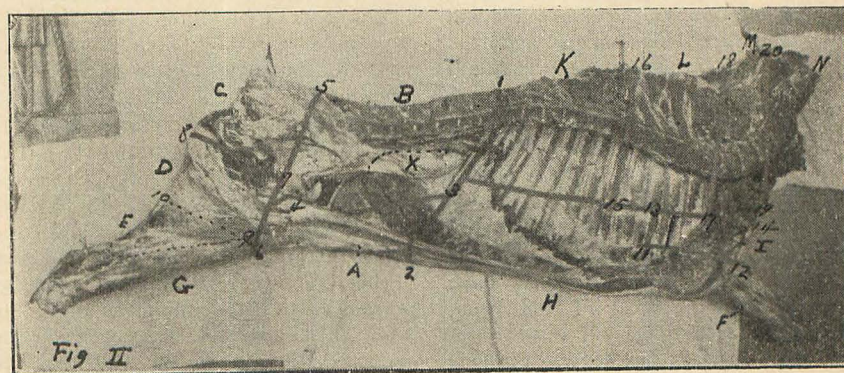


Fig. II. Shows the inner side of a half of beef.

line 7-8, and of the thickness desired, steaks about $\frac{1}{2}$ inch, and roasts $4\frac{1}{2}$ inches.

When tough steaks as shown in Fig. III., begin to appear as they will at 9-10 no more should be cut, but the meat, E, lying between this point and the shank should be used for boiling.

The pieces are now ready for oven or pot roasting or for boiling.

The Chuck Ribs, L. Cut these much after the manner of the prime ribs. The third, fourth and fifth ribs make very nice oven roasts if the chuck is taken from a young or fat animal. The first and second ribs are usually tougher

and should be boiled. If the chuck is heavy, the ribs may be sawed crosswise, to make pieces of suitable size for the family.

The Shoulder, M. Remove from this, part of the spinal column and all bloody portions. This part should be boiled since it is tough.

The Neck, N. Cut this up into pieces. It may be used for mince meat, stewing or boiling, or converted into hamburger when the bones have been removed.

Let a lot of sunshine in! Not to the human soul alone but to the places where men dwell and little children grow to be men and women. Not there only but into the dark, damp and dismal stables where we, who most of us delight in sunshine for ourselves and our little ones, compel our animals to live and suffer. Everywhere sunshine has a beneficent effect and where life is there should be sunshine and fresh air, with

produced in the cellar; of the celery stalks purposely deprived of light. Yet both of them become green and robust when they are translated into the sunshine and the good, fresh air of God's grand out-of-doors.

Disease germs thrive apace in the dark, dirty, damp places where air and sunshine are not permitted to perform their beneficent functions. In such places, be it a human abode or animal habitation, tuberculosis finds its most

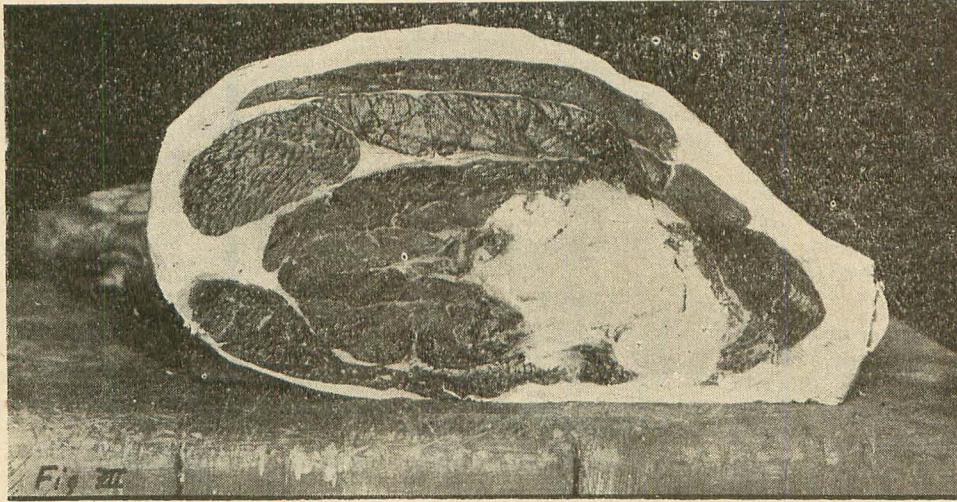


Fig. III. Shows the face 9-10 of cut E. from which the last piece of round steak has been removed.

Keeping the Beef Until Ready to Use

During the winter beef may be kept by freezing, and then packing in snow in a box or barrel. The steaks, oven roasts, and boiling or stewing pieces should all be packed separately in order to render unnecessary the handling over of all of it in the search for any one kind. The meat should be kept, where it will not freeze and thaw alternately, as this impairs the flavor of it.

UNSANITARY STABLES INDUCE AND BREED DISEASE

A. S. Alexander

Some years since the writer heard the beat of drums and blare of trumpets coming from the public square of a little western city and on drawing near saw that some Salvation army lassies were conducting a meeting. He paused to harken to their song and its words wrote themselves upon his memory when they sang "Open the windows of your souls—And let a little sunshine in; Let a little sunshine in; Sunshine in." A grand doctrine for the Christmas season of the year—yes for every hour and day of the year. Do let a little sunshine in; better still, a lot of it, so that it may suffuse the soul and shine out upon the countenance for the cheering and encouragement of all who see and those whose souls are heavy with darkness and sorrow.

its revivifying oxygen, find untrammelled entrance.

The convict coming from the gloom of his cell shows no rosy hue of health upon his cheeks. His is the pallor of the prison but soon, when the sunshine warms his face, trouble signs vanish, smiles come uncalled and the freely circulating blood tinges his countenance

suitable hiding and breeding place. The "great white plague" is a house disease—provided the house is dark, sunless, and insufficiently ventilated. Bovine tuberculosis spreads from one affected animal to all of them in time when sunlight and fresh air are shut out or allowed inadequate entrance. For bovine tuberculosis is a stable disease—a

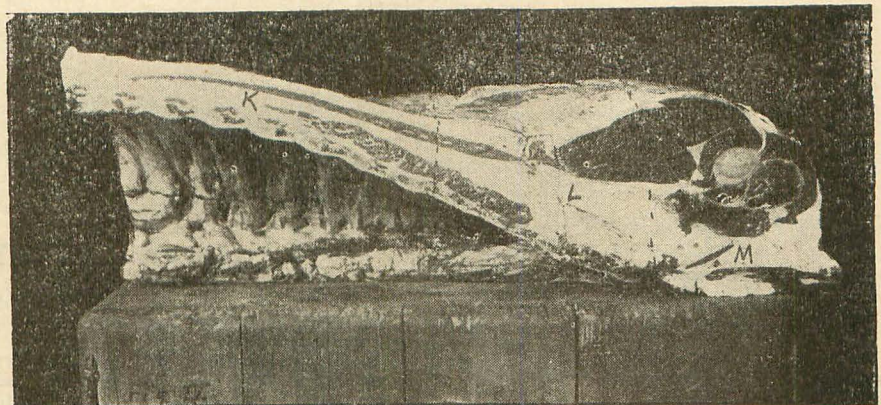


Fig. IV. Shows the prime rib, chuck and shoulder of the front quarter.

with the bloom of health. Man cannot thrive perfectly in the dark. He needs the sunshine for his soul and his body. So do the dumb animal and the growing plant. Neither can grow strong and robust when deprived of light. Note the blanched hue of the potato sprout

disease rendered most prevalent and virulent by the very conditions known to favor consumption of man. But the bacilli of tuberculosis of man and animals cannot long survive exposure to the direct rays of the sun combined with the powerful action of fresh air. If

we fail to allow these preventive and protective agents of the Creator to wield their full power for good in our homes and in the stables of our animals we must pay the penalty in disease and death and what a terrible penalty it is both among people and animals! As to bad housing 2,285 persons died of tuberculosis in Chicago in the half year ending June 30, 1907 and prior to improvement of the environment of cattle in some foreign countries bovine tuberculosis effected as high as forty per cent of the animals, as shown by statistics of the abattoirs of the cities. What wonderful results might follow from the general worship of sunshine and fresh air! It would reduce the mortality of man from tuberculosis to far less appalling figures while intelligent employment of the tuberculin test in conjunction with proper sanitation of stables, care, feeding, and exercising might make animals practically free from the disease.

The conditions inducing and propagating tuberculosis are as potent in the production and spread of other ailments. Notably, too, are dirt, damp and darkness likely to favor animal and vegetable parasites such as lice and the fungus (*trichophyton tonsurans*) productive of "ringworms." It is alleged by authorities that in the French cavalry the annual loss of horses amounted to from 180 to 197 per 1,000 head prior to 1836 but by the introduction of better methods of ventilation and lighting of stables the loss was in ten years reduced to an average of 68 horses per 1,000 and at the present time approximates but 24 head per 1,000 annually. During the same time and for the same reasons glanders among cavalry horses has been reduced from an average of 27.32 to 7.24 at the present time and pneumonia from an average of 104.7 deaths per 1,000 per annum to 3.59 per 1,000 per annum. They simply have let lots of sunshine and fresh air into the stables and at the same time have paid strict attention to all other factors that are vitally concerned in the prevention of disease and maintenance of robust constitution and health. Can we say as much of our management of domestic animals? How many readers of this paper can truthfully report that at the present moment their horses and cattle are stabled in such a manner that they are blessed with an adequate supply of sunshine and fresh air? How many must confess that they are keeping dairy cows, or calves or horses or other animals in dark, damp, dirty basement stables? How many can testify that they have had "bad luck" with their animals and yet have given but little if any serious thought to the betterment of conditions as regards stabling and intelligent care? How many have found tuberculosis

prevalent in their herds and yet have done little or nothing towards eradicating the conditions to which we have drawn attention and which doubtless were present as factors in the spread of the disease?

At this season of the year the practice of retrospection and introspection may bear good fruit a thousand fold. It will pay every man to regard the past for lessons and experiences that should guide in the conduct of the present and by inward searching of the soul—lighted up by the sunshine of right thinking and right meaning—there must come betterment of every condition surrounding man and his beasts. Let a little sunshine in—yea, a lot of it!—and health and happiness will follow and the world be better for the singing of that sweet Salvation Song.—Live Stock Report.

THE DAIRY COW

By Lycien A. Sweet

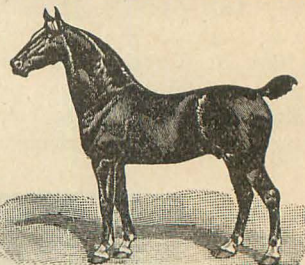
The dairy cow is the one that under favorable surroundings and with a sufficient amount of the proper kind of food will produce a reasonable profit on her value after paying for feed and care. A cow which will not do this should not be classed as a dairy cow, no matter of what breed.

In the selection of a typical dairy cow a few points, if observed, will serve the buyer well.

First. She should be reasonably young and have the appearance of health. Second. She should have a reasonably large udder, full before and behind, with plenty of room for expansion, and medium sized, well placed teats, far enough apart to allow free movements of the hands and fingers while milking, and without interfering with each other. Her udder should be free of flesh and capable of large expansion. Third. The milk veins should be large, tortuous, and enter the body well at the front, with a large wall or passage for the

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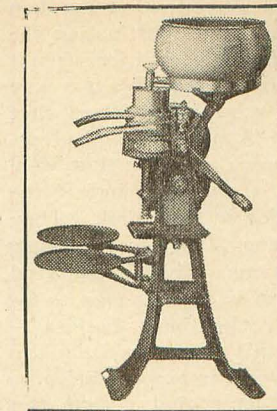
vein into the body. Fourth. She should have a big barrel or abdomen showing large digestive organs.

Her frame should be heavy enough to carry her digestive organs with the muscle needed to keep the machinery of life in motion. A wedge shaped body, heavy behind and light in front is desirable. She should not have a tendency to lay on flesh, and last, but not least, she should be able to produce, under good treatment, at least 250 pounds of butter per year.

If farmers will remember that butter from a cow which produces from 250 to 400 lbs. of butter yearly can be made at a cost for feed not above \$30 a year, and that it is about the only branch of farming that does not have its way ups and way downs, as the beef and pork business have, there would be more of them hunting for the special dairy cow. Relatively to population, there are less cows in the United States today than 10 years' ago.

Almost without exception the cows with a large record have been of the special dairy type. Sometimes we hear of a cow of beefy form making a big record for a short time; but there is no record of a big yearly yield of cow or herd where the dairy form or type was absent. To be sure, fair and sometimes very good cows will be found in most any of the dairy breeds that have quite a tendency to beef; but they are not desired by dairymen who are looking for herd improvement and maximum dairy profits.

If the rule is good with beef cattle why will not the rule hold good with beefy cattle which have found their way into dairy herds by the law of reversion? If a cow carries 100, or even less, pounds of beef on her body that is not needed to carry the necessary digestive and other organs for the production of milk, she is causing an unnecessary expense for feed for bodily maintenance. For example, suppose a cow of the typical dairy form is equipped with the necessary flesh to do good work on an average weight of 900 pounds, but is obliged to carry 100 pounds extra meat, what naturally follows? It takes about one-third the feed of a cow for bodily maintenance, under the most favorable circumstances; this means that to keep life and heat in the body of a cow weighing 900 lbs., it will take about 3 lbs. of grain, besides a third of the roughage she eats, or one-third lb. of grain and the nourishment that will come from a portion of the roughage per day for each 100 lbs. of cow; which means 10 pounds of grain a month or 80 pounds for a winter's feed besides what is lost by



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feeding more roughage than would otherwise be necessary. This does not seem much, but during the life of the cow the extra cost each day amounts to a considerable, and besides, it is very seldom that cows of this class make large records. However, if I had a cow of this kind that was making a good profit I would keep her, but if I were to purchase a cow or a sire for breeding purposes for the dairy it would be an animal of the spare, angular form.

THE DAIRY CONDITION OF TODAY

By G. L. McKay of Iowa
(Synopsis of an address at the great Chicago Dairy Show.)

The past year has been a phenomenal one in many respects. We have seen prices soar beyond anticipation. There has never been a time when the outlook, especially from the producers' standpoint, was so favorable to the dairy industry as at the present

Red Polled Cattle for Sale

Both beef and milk strain. Both Sexes. Nearly all ages.

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Bartlett,

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FOX TERRIERS, BEAUTIES.

PEDIGREED STOCK. REGISTERED.

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THOROUGHbred HEREFORD CATTLE

Five young bulls for sale: two two-year-olds, three yearlings.

The yearlings include "Frosty Morning" which at five months old won three firsts and two championship prizes.

Local and Long Distance telephone.

DAZEY, N. D.

time. Yet high prices are not always the best, as one extreme frequently follows another. For some reason the dairy industry is by no means keeping pace with the increase in population, and unless some radical changes take place soon we may be compelled to import butter and cheese, and this would be an unfortunate state of affairs. There is no market equal to ours—no nation where the laboring man is more able and willing to buy the best the country afford than in the United States. That means there is a constantly increasing demand for high grade goods. Are we dairymen meeting the expectations of the consumer? I must answer in the negative. Basing my opinion on the butter I have seen at various contests during the last four or five years, I would say that the quality of American butter has been slowly deteriorating—so much that we should call a halt and seriously consider this question. If by some chance the tariff on American butter were suddenly wiped out the result would be that our market would be flooded with high grade foreign butter, and much of our butter at the present time would not be able to hold its own.

The methods used by some of our centralizing plants have been largely responsible for the deterioration of butter that has taken place. Some of them have encouraged the shipping of cream whenever convenient for the farmer to come to town.

The dairy business of this country is in a chaotic state—(Here the speaker compared the "Great Divide" in the Rockies to the dairy industry)—Today we may say dairying has come to just such a divide. On the one side the centralizing plants are arrayed against the cooperative. The other, vice versa. It is impossible for any one to look at this from a neutral standpoint and fail to realize that this division is causing a weakness in the dairy forces of this country. We have an unwritten standard of justice and right, and whenever that standard is violated the public will rise up and protest. The creamery of the company that goes into a community and pays more than the goods are worth for the sake of crushing out competition is no better than Rockefeller or anyone else who receives rebates. I am not sure but we have laws on our books for dealing with just such offenders.

Last summer in the month of June I was in the western part of our state, and one evening going down to the railroad station I saw a cream hauler with some 20 cans of cream two days' old and in fairly good condition. This cream was placed in an open baggage

car and shipped 150 miles. It was then reshipped, reaching its destination the following evening in a condition when it would be utterly impossible for any one to make good butter from that kind of cream. Another method adopted by this concern was that they were paying within a cent a pound of the highest quotation in New York. They were also paying 3 or 4 cents below highest quotations. This is the kind of business that is causing men to be disgusted with the dairy business—forcing the local creameries in many cases to take cream in any condition.

While I condemn that system the strongest way possible, I equally condemn the methods used by some of our cooperative and individual creameries—that of cutting the test in order to reduce the price of butter-fat. We need more cooperation. I believe there is room in this country for the centralizer, the cooperative and the individual creamery.

Ninety per cent of the buttermakers in this country can make good butter if they are furnished with the right material and it's up to the dairymen to furnish this material. I believe if our smaller cooperative and individual creameries would adopt a method of publishing monthly statements giving or showing the actual returns per cow from each patron and send these statements to the patrons that it would furnish food for thought. It might not be necessary to publish the names of the patrons, as this would be somewhat embarrassing to the poor patrons. It is appalling to observe the kind of cows and the methods of caring for them.

As a rule the dairy and creameryman is inclined to look too much for government aid. I believe in inspection, etc., but I also believe creameries of this country should pay a just portion of the state inspector's salary, as dairying is only one branch of agriculture.

If we want to create much enthusiasm in our business we have got to apply individuality, and when we do that our business will increase and not until then.

THE USE OF REGISTERED BULLS

Progress in cattle breeding during the past quarter of a century has been comparatively rapid. Farmers are surely beginning to realize the value of well bred registered bulls of good individuality. This anyone can see as he scans the farms not only in sections where land is high priced but also in sections where it is still cheap and sparsely settled. Notwithstanding that much progress has been made, much more can and unquestionably

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Middleburgh, N.Y.
Sept. 4, 1907.
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has been adding to its reputation for RELIABILITY which is UNEQUALLED today. Dairymen today choose the U. S. because they KNOW it can be depended upon to do the Best work ALL the time and the Longest time, too. Time has PROVED it.

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The thirty illustrations in our new catalog enable you to easily SEE why the construction of the U. S. makes it the most RELIABLE and profitable. Won't you send today for free copy? Just ask for "No. 127."

VERMONT FARM MACHINE CO.

BELLOWS FALLS, VT. 482

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will be made in the future. There are still many farmers who either have not learned the advantage of grading up their herds or else they are too careless to put into practice what they know would be profitable.

While, as stated, commendable progress has been made, the percentage of purebred cattle, take the country as a whole, is still very low and the percentage of high grades is also far below what it should be. There is a class of farmers who, while they have used registered bulls for a number of years, have not stuck to one breed. They have changed from one

to another every two or three years until their herds have become badly mixed and until much that was gained by the first grading-up process has been lost. This promiscuous breeding has perhaps kept a larger per cent of our cattle from becoming more uniform than a lack of the use of purebred bulls.

It appears that many farmers have failed to comprehend the full meaning of the infusion of new blood strains into their live stock. They seem not to understand that, while the improved blood in all our well established breeds is excellent, it does not admit of promiscuous mixing. The man who desires to grade up his cattle for beef-producing purposes, if he hopes to meet with reasonable success, must adhere to one breed. The minute he mixes the blood of any two well-formed breeds there is at once a strife for supremacy in the improved blood strains and the blood of the native, and, wherever such a strife occurs, the character of the offspring can never be foretold, and in fact the offspring will often be inferior to both dam and sire. A purebred Hereford female may be bred to a Shorthorn bull, and the result of such a cross is almost invariably valuable, but we can go no further. If, for example, we breed a cross-bred female to cross-bred sire, or even to a registered sire belonging to a breed represented in the cross-bred female, the affinities are broken up and the resulting progeny will often be inferior to the poorest scrub. We get similar results, tho perhaps less pronounced, when we breed a scrub female to a bull of one of the established breeds and then later breed the grade offspring to a registered bull of another breed. Not only can we make no progress by such breeding, but we fail, even with a large percentage of the progeny, to maintain the worth of the original scrub with which we started.

These statements are amply borne out by results obtained again and again by farmers thruout the country, and they are borne out, also, by carefully conducted scientific investigations. A lack of knowledge with reference to some of these fundamental facts in breeding is one of the causes that has prevented more rapid progress in the improvement of our domestic races of livestock.

Another cause is due to a lack of foresight on the part of many farmers, who, instead of looking into the future, instead of figuring 10 years ahead of the present, think only of the present. They shrink from investing a few dollars in a registered bull because they can see no immediate cash returns from such investment. Such policy, of course, is so short-

sighted that one can hardly conceive of the possibility of a rational man entertaining it. Nevertheless, such views are held by many. True, it is relatively much more costly for a farmer with a small herd of cows to maintain good bulls than it is for those who own larger herds, yet this disadvantage to the small man could largely be overcome by cooperation. For instance, a bull cannot be used in a small herd for more than two, or at the most three years, on account of in breeding. This means the sending of a good bull to the shambles every two or three years, which is a waste that could be done waay with if neighboring farmers would cooperate with each other and exchange bulls from time to time. If farmer A, for instance, with a first-class bull for which he may have paid \$200 at breeding age, would, after using this bull for two or three years in his herd, sell him to a neighbor instead of to a butcher, the bull could serve for another term of years with equally satisfactory results. After the second three-years' service the bull might go to another man and in turn serve an additional term of usefulness in a third herd.

The great trouble with this scheme is that farmers are not neighborly, even to the extent of self-interest. They refuse to buy of each other. If a farmer offers a registered bull, still young and vigorous, no neighbor will buy him except at beef prices or less, and yet a bull of five to 10 years of age or more, other things being equal, is as valuable for breeding purposes as one three years of age, and in fact

in many instances more valuable. If farmers would exchange bulls or purchase each other's bulls as their usefulness in certain herds cease, the cost of maintaining registered sires would be reduced, and in many cases bulls of superior merit would be discovered and maintained that would do much toward raising the standard of our common cattle thruout the country.

Boys Interested in Corn Culture Contests Should Read Personal on Page 3.

NEVER-SLIP

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Made to fit well, wear well, work well. So stuffed that they form a very elastic pad which fits the horse's shoulders and neck without causing sores or galls. The whang-sewed rolled-edge on the front of collar is so shaped that the hames can not slip off the collar no matter how much too big they may be. Felt-protected seam on outer edge—felt takes wear off seam. Made of russet leather, cut from center of whole hides, the "Never-Slip" gives you more wear, more work, more comfort, with less bother than any other collar on the market, and you pay no more for it. See it at your dealer's; if he does not have it write direct to us and we will send our harness-book free. Write today.

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Send 25c for trial size "Betterbait." Best bait in the world for catching Mink. Send for price list of fur coats and Raw Furs.

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In Buying Stock Food

It is like buying anything else, it is not altogether a question of Price, but a question of Quality.

If 50 cents worth of GUARANTEE STOCK FOOD will restore an animal that is run down, or out of order, you buy cheap enough, and cheaper than any Veterinary will do the job for you.

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Will do it, but remember a 50 cent package is only enough for one horse or one full grown head of stock. If it fails after a fair trial, we refund your money.

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GRAND FORKS,

NORTH DAKOTA

It is unquestionably true that under the present system of butchering, many valuable sires are sent to the shambles before their worth as breeders has been discovered. The breeding power of a bull can properly be measured only in his get, and the value of his get cannot be determined until it reaches the breeding age. This is especially true with reference to milk-producing qualities, which are of so much importance. This exchange of bulls would also tend to make the cattle in certain localities more uniform, which in itself would be a distinct gain to the farmers of that community. It would result in certain communities, as is now the case where cooperation of this kind is to some extent being carried on, becoming noted for Holsteins, Jerseys, Guernseys, Shorthorns, Herefords or Angus cattle as the case might be. Buyers looking for a certain breed of cattle or grades of a certain breed would go to communities where they could have the best opportunity for selection. In fact, if whole counties could be induced to raise one class of cattle, that fact alone would advertise the county to such an extent that it would be difficult to estimate the value thereof to the farmers.

These suggestions are by no means new. There are communities here and there where cooperation along the lines suggested are being practiced, and with good results. We refer to this matter in hopes that other communities may begin cooperating along the same lines and in that way grade up their cattle in an economical and yet a most effective manner.

MONEY IN HOGS

By R. C. Arnold, Ames, Iowa

The hog is the most economical of all food producers. From the same supply of food, he makes practically twice as many pounds of a marketable commodity as do cattle, and he is also a little more economical producer than sheep. It costs less than four cents per pound on the average to fatten hogs, and with the present price of from six to seven cents. This leaves a clear margin of from two to three cents per pound—a far better profit than is obtained from

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Oldest herd in state. Both sexes, not related, for sale, either as foundation herds or separately.

Special prices on foundation herd.

A Polled Durham bull is the best dehorner.

F. B. NICKERSON,
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any other class of livestock on the farm.

The feeding of hogs is about the most important factor in making cheap and rapid gains. When the pigs are about twelve weeks old they should be weaned and separated into lots containing twenty-five or thirty pigs each. These lots should be as large as possible, fenced hog-tight and should have a good clover

PLEASANT GROVE HERD Shorthorn Cattle, Poland China Swine

We are making a specialty this season of shipping spring pigs. By shipping when not too large the express bill is lighter. We can supply boars and sows not related. Write us for descriptions and prices.

WINN BROTHERS,
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GREENVIEW STOCK FARM

Has 100 Poland China young pigs, sired by Rockwell Chief, Corwin U. S. 2nd and Prince Corwin. Sows strongly bred of Tecumseh blood. Orders booked now for fall delivery.
Pure Scotch and Scotch Cross Shorthorns, Young and old stock for sale. Call or write if you want North Dakota bred Poland Chinas or Shorthorns.

E. C. BUTLER,
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PRAIRIE KING HERD OF POLAND CHINAS

Will part with the Herd Boar Victor Keep On 130253 by Minn. Keep On. Farrowed May 10, 07. Have a few choice gilts left that are bred for March and April farrow. Weigh from 240 to 260 lbs. W. H. Turkeys of both sexes.

THEO KLASSEN,
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LAKE LILLIAN HERD OF POLAND CHINAS

April, May, June and July Pigs for sale; also two old boars, one and three years old. My herd is selected from State and Interstate Fair Prize Winners. Prices right. Call or write to

G. F. FISCHER,
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POLAND CHINAS

We have for sale several choice spring pigs sired by "Giant Perfection" No. 3477, a grandson of Chief Perfection, the 2nd, the greatest hog the Poland China breed has ever produced.
CENTER LANE STOCK FARM,
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Are your names in our
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One dollar a year and the
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WILLOW GLEN SHORTHORNS AND POLAND CHINAS.

HOME OF MINN. KEEP ON

He was first premium at Minnesota State Fair 1907. Have a few choice gilts for sale weighing 250 lbs. Bred to Minn. Keep On, at prices that will move them. We are building up as good a herd as can be found in the northwest.

Also have good bulls at right prices for sale.

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AXEL W. PETERSON,

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The Standard of Excellence in Dairy Cattle.

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A Few Pigs and Occasionally a Bull Calf For Sale.

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WARREN,

MINNESOTA

or alfalfa pasture for the hogs to feed on. For the first few months give them a large amount of bone and muscle building foods, such as milk and shorts. The clover or alfalfa pasture really furnishes the best and the cheapest protein and ash compounds that can be fed. When the pigs are about five months old, the corn ration should be increased until they were getting practically nothing else. If grains are very high it will pay better to do most of the fattening on the pasture feeds, tho this will require more time.

Another important factor influencing the profit and loss in hog raising is the maintenance of health in the herd. Worms, lice, hog cholera and plague are the common troubles met. Worms hinder the processes of digestion and absorption, which reduces the effect of the food and weakens the animal. The following is a good treatment: With the skim milk feed one teaspoonful of turpentine for every eighty pounds live weight of hog. Do not feed the hogs too much the night before, so that in morning they will be hungry and will take the turpentine on empty stomachs where it will come in direct contact with the worms. Repeat this for three mornings and on the fourth give a dose of Epsom salts about two ounces per one-hundred pound pig.

Lice are common on nearly all hog farms. These lessen the animal's vitality and vigor, and as a result it will fail to make gains. Dipping in a 2% solution of almost any of the coal tar dips, will rid the herd of lice. After eight days dip again for fear any eggs should have hatched. One or two treatments similar to this will keep the hogs free from them. It will pay any hogman to have a dipping tank put in on his farm, so that he can use it whenever necessary.

Hog cholera is by far the worst disease of swine. It is very contagious and is fatal in nearly all cases. There is no cure, and all that the farmer can do is to try and prevent it. If the disease is in the locality, he should keep off his farm, all dogs, birds of carrion and men. In fact, anyone or anything that is liable to carry the disease germs. It is thought to be a germ disease, tho the germ has never been found. Anyway it is spread so easily that a man with two or three thousand dollars wrapped up in a bunch of hogs can well afford to enforce a rigid quarantine. He should allow no one to enter his feed lot, and should not even go in himself. All feeding must be done from the outside of the pen. Also, any hogs shipped in, should be put in quarantine for two or three weeks until the danger is over.

Hog plague is a great deal like hog cholera only it is not so fatal. It is a germ disease and, therefore contagious,

so the same precautions regarding cholera will apply to this disease.

In the selling of hogs it is well to look into the market conditions. In general large hogs three hundred or over will find best market in the winter months, while during July, August and September the light hogs, especially barrows, are in demand. It is generally advisable for the raiser to market hogs himself, as he saves the "middleman's" profit, but there are times when it is best to sell to buyer in one's own locality. This question of when and how to sell, must be decided by the raiser himself. In a large measure close attention to it will make the difference between profit and loss in the handling of swine.

INQUIRIES ANSWERED.

PUFFED LEGS AND SCRATCHES

1. Will you please tell me thru the North Dakota Farmer if anything can be done for horses' legs that stock up or swell thru the night or when the horses are standing idle.

2. What treatment do you recommend for scratches on horses?

Glenburn

E. Johnson.

Answered by Dr. Van Es, N. D. A. C.

1. The swelling up of the legs in horses during the night can be sometimes attributed to a little sluggish circulation during the time when the animals are at rest. It usually does not require any attention as no harm is done by it, and nature will usually take care of this slight abnormality. If the swelling becomes very much marked, however, you may apply an elastic bandage moderately tight during the night. This will in many cases prevent swelling. Such applications as liniments are absolutely worthless in this class of cases.

2. The treatment for scratches varies a little according to local conditions. You will find, however, that the application of a mixture composed as follows will help a great number of cases: tannic acid, $\frac{1}{2}$ oz.; carbolic acid, $\frac{1}{2}$ oz.; and glycerine 10 oz.; apply twice and keep the parts dry.

GLANDERED HORSES

My horses have been exposed to the contagion of glanders being stabled over night in a barn where glanders shortly afterwards were found to be and no doubt were at the time my horses were there. Under ordinary circumstances, how long would it take for glanders to develop if horses should prove to be infected? At what stage of the disease does it become contagious to other horses? Would it be advisable to have the horses tested before any symptoms

Boys Interested in Corn Culture Contests Should Read Personal on Page 3.

should appear as it would cost me \$16 for 6 horses? Will a horse spread contagion before there are any discharges either from the nose or from sores on the body?

If a horse should show no signs of glanders for a period of 5 or 6 months after being exposed would you consider it reasonably sure that he had not contracted the disease? My horses are all in good condition. Would you recommend any treatment by way of tonics or otherwise for the horses? One of my horses five years old seems to be wrong in stifle joint when she pulls the stifle springs back with a snap but she is never lame. Can anything be done for it?

Answered by Dr. L. Van Es, North Dakota Agricultural College

In answer to your inquiry concerning glanders contained in your letter to the N. D. Farmer under date of the 3d. inst. and which was referred to this department, I beg to say that the period between exposure and the actual appearance of the disease varies considerably. Symptoms may make their appearance within a week of the time of infection or it may take weeks or even months before evidence of disease is shown. In many cases exposure does not lead to infection.

Glanders must be considered contagious at all stages but more so when open sores discharge their contents from the nose or the skin.

Yes, if your horses were exposed, a test, say about four weeks after exposure will reveal not only if infection had taken place but also what animals harbor the disease.

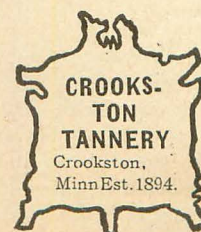
It is possible that a glandered horse without any apparent sores spreads infection but the danger is not very great.

If after five or six months the animals show no symptoms it is possible that they are not diseased, but remember that symptoms may remain concealed for years. The mallein test only will enable you to tell with certainty.

No, medicinal treatment with a view of preventing glanders cannot be recommended. It would be a mere waste of time and material.

In regard to your stifle case, I incline to the opinion that no treatment is liable to better the condition. It is possible that it will improve with age.

Hundreds are using Personal, page 3.



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Poultry Department

By MRS. B. F. WILCOXON.

Hens that moult late seldom lay during the following winter.

There is no danger of giving a flock of laying hens too great a variety of feed.

The hen that is compelled to expose herself to the winds of spring will hardly ever do her best as a layer.

Aim all the time to improve the breed and quality of your flock, at least not to allow any to retrograde. Keep only the best. Weed out the weeklings.

Accidental infection and bad management will account for nine-tenths of the disease of fowls. Health is their natural condition, disease is unnatural, and except for accidents, avoidable.

It is claimed that shrunken wheat is better feed for hens than that which is plump. There is good philosophy in this, for the shrunken grains have less starch in them than the plump ones and starch makes fat instead of eggs.

The laying qualities of the different breeds have been well tested by repeated trials and tests. If you are after eggs chiefly, you will, of course see the importance of keeping only those proved to be the best layers.

Rather than see how many fowls can be kept in certain quarters without loss, one ought to keep enough for safety, beyond which further shelter should be provided. The mistake is too little room and not often too much.

The best way to protect poultry at night in very cold weather is to have curtains arranged to drop around them during the cold weather. This prevents the escape of heat to a great extent and still leaves free access to pure air.

In reality, a good bone cutter, should be looked upon not as an additional expense to the owner, but as an essential to the success of the undertaking. It cuts down the feed bills, reduces losses, increases the yield; and this is what we are looking for.

Roup is a contagious disease. If your fowls have roup separate the sick from the well, give the sick ones clean, dry, quarters inject coal oil or much better camphorated oil, into the nostrils and throat with a sewing machine can and give scraps in their feed.

A prime requisite is to keep the poultry house dry. As fresh air leads in this direction, it goes without saying that plenty of fresh air should be circulating all the time. If the houses are dry, that dreaded disease, roup, is not apt to get a foothold. The houses should be thoroly aired every day, rain, hail, or shine.

The man who has in his cellar a large bin of mangels, carrots, turnips, and small potatoes, stored away in the barn a lot of nice clover hay and well-covered with straw a long row of soft headed cabbage faces high grain prices and a long winter with little fear. If he is situated so he can get green bone whenever he wants it he need not worry about profit.

Get your cockerels for next season's breeding as early as possible. The price now will be very much less, considering the quality, and you will have a chance at some of the very best birds. Our prices for breeders are never over half as much during the fall months as they are after they go into winter quarters, and the first orders always get the best that breeders have to sell.

When starting the poultry business it is better to buy fowls if your capital will permit of it. By so doing a year's time will be saved. In purchasing eggs one is compelled to wait an entire season for the young stock to mature and serve as breeding birds for a foundation. In purchasing stock one can commence breeding operations at once and can know just what kind of birds are producing the eggs and what the young stock will be. Buying eggs is the cheaper method and is all right for the beginner if he cannot afford the outlay for stock and is willing to wait a little longer for his start.

There is no royal road to success in the poultry business, and the beginner who bases his hopes on the estimates in certain trade catalogues and the like is doomed to disappointment. Whatever measure of success you attain will be due to conscientious and enthusiastic attention to details, determination and grit to accept and profit by the lessons of failure and an aggressive energy to take advantage of every opportunity and make the most of it. The surest and safest way to begin is to take up poultry raising as a side issue for a year or two until experience has demonstrated the possibilities and probabilities, and then

if you have sufficient capital you can devote yourself exclusively to poultry raising for a livelihood. No one can decide what sufficient capital is without some experience, but at all events there should be enough money in reserve to support you for the first and something for overlooked expenses, etc., I do not believe it possible for the first year's returns to equal the expenses and that is a point where many a beginner fails outright. He has based his estimates on optimistic figures and has no surplus to fall back on. At the end of the season his output fails to bring the prices expected, he has nothing to go on with and so fails and adds another to the long list who declare that there is no money to be made with poultry.

Hundreds are using Personal, page 3.


Succeed with a Successful

The incubator that works as well for the amateur as for the professional—that has the best and most economical heating system—the most perfect ventilation—lamp that saves $\frac{1}{2}$ the oil—that has the only real practical egg tray—is the

Successful Incubator

Our free, interesting, practical Incubator Book tells you why the Successful Incubators and Brooders are the only safe, sure chick raisers. Send for it and find out what our strong guarantee means to you. Book on "Proper Care and Feeding of Young Chickens," 10c. 50c Poultry paper, one year, 10c.

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My large illustrated circular. Send for it at once. It gives the lowest prices of both STOCK & EGGS, from my heavy laying strains, of the leading varieties of Standard-bred Poultry. Send me \$1.00 and I will send you complete illustrated plans for building the best and cheapest brooders on earth. Fresh Green cut bone, the best egg food known, at 3 cents per lb. Write your wants. I know I can please you both in price and quality.

DAKOTA POULTRY FARM


A. K. Johnson, Prop. Kensal, N. D.

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All varieties of standard bred chickens, ducks, geese, turkeys, peafowls. Send 4 cts. for catalog. J. J. Brenner, Dept. 11, Mankato, Minn.



All Leading Varieties Strictly Pure Bred CHICK-ENS, DUCKS, GEESE, TURKEYS, EGGS and FREE TRIAL INCUBATORS at right prices. DON'T BUY till you see what we offer. A. I. References. Send 2 cts. for illus. catalogue. CHANTICLER POULTRY FARM. Dept. 20 MANKATO, MINN.



COMMON SENSE ON POULTRY RAISING

Tells how I have succeeded in hatching and raising thousands of chickens every year. I have succeeded, so can you. This book is worth dollars to any interested in Poultry. It will be mailed to any address for 15 cents.

MRS. B. F. WILCOXON

Fort Des Moines,

Iowa

THE BUSINESS SIDE.

JUST RIGHT

The North Dakota Farmer most heartily endorses the recent decision requiring one cent postage on every magazine sent to subscribers who are more than four months behind. The mails have been loaded with the vilest kind of trash, sent to any one who will take it from the postoffice. Many other publications which are mere advertisements are sent thru the mails, altho not one in ten who receive them has subscribed. Frequently the one who takes the paper out of the office gets a notice that he is in debt to a publication which he has never ordered, and the only way to stop the paper and the threatening letters is to pay the amount demanded.

The action of the postoffice department will deprive us of many subscribers who have been carried several years, but we are certain to receive many additions to our list, for we shall now devote to the improvement of the paper what was formerly spent in sending it to those who paid nothing towards its maintenance.

Did you ask what you can do to help "push"? Just say to that neighbor whose subscription has expired and to the one who has never been a subscriber, "Did you know that by sending the North Dakota Farmer 50 cents for one year or \$1 for three years, you will receive as a premium, not a cheap fountain pen or other glittering bait, but one of the best farm papers in the West, 'Successful Farming' one year and also one of the most helpful books for the progressive North Dakotan, 'Holden's Corn Culture.'" Also tell your friends that the North Dakota Farmer wants a hustling agent in every county in the state and will pay him well for his time by a most liberal commission. Always the N. D. Farmer to advertisers.

We have always taken the word of our subscribers without a question. We have for years carried those who failed to remit, as we wished to help rather than annoy our readers. While we may never receive the hundreds of dollars belonging to us from delinquent subscribers, we have the satisfaction of having done our part in fighting the battles of North Dakota Farmers for justice in correct weights, pure foods and straight goods. The fight is by no means over, and we need the financial and moral support of every true North Dakotan. We are for you. Are you with us?

A HIGH GRADE PAPER

It is seldom that we call the attention of our readers to any particular publication, but we believe we are doing our readers a favor by mentioning "The Breeders' Gazette," one of the most helpful publications to the farmers of this state, inasmuch as so many are now engaged in stock raising.

The Holiday number of The Breeders' Gazette was most remarkable in its beauty and content and we are privileged to offer this number with all subscriptions sent in at once.

That this publication may be in the hands of our readers, we make the special offer of The North Dakota Farmer (three years) and The Breeders' Gazette (one year) for only \$2. This offer is good only until March 1st and will not appear again.

WINTER VISITS BY TELEPHONE

Visiting by telephone is a comfortable occupation when there are no waiting subscribers clamoring impatiently for the wire. It helps, as every family where the instrument has entered knows, to fill in the long hours when the

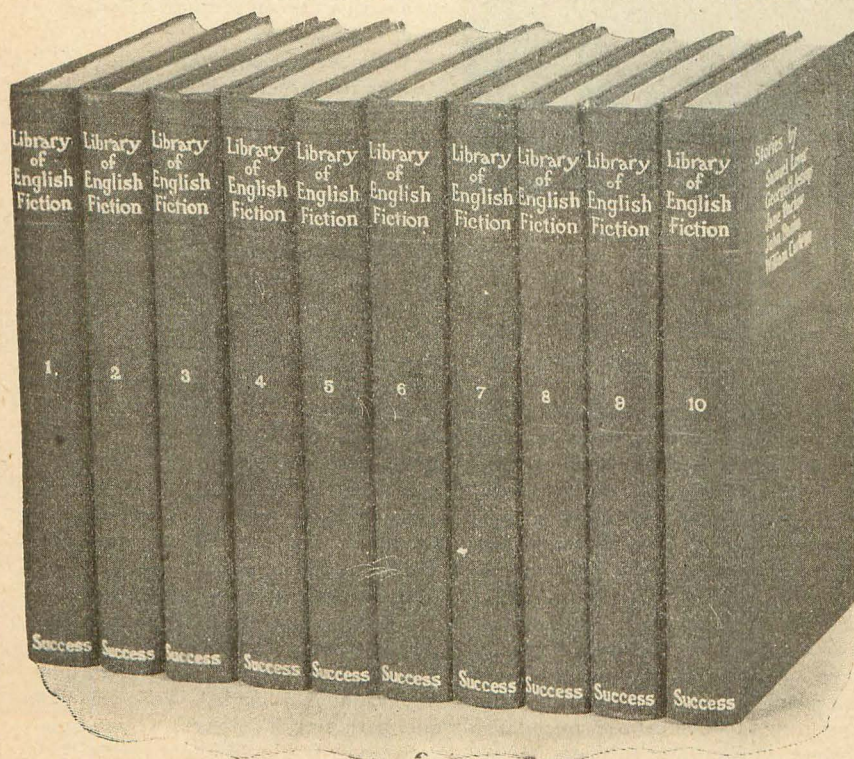
daily tasks have been done. What the presence of the telephone during those months of cold and storm has meant is shown by the way in which the rural lines expand by leaps and bounds every spring and summer, with the extension of service in communities where it already exists and the organization of new systems in other localities. Five years ago there were a little more than a quarter of a million telephones in use in the country districts. Today it is estimated that there are four times as many and their number is increasing thirty per cent annually.

This remarkable development has taken place mainly thru cooperative construction of lines by the members of the communities themselves and in spite of the handicap imposed by the fact that these lines were unable to secure the standard apparatus and equipment in use by the great national commercial lines and that the resources of the greatest telephone factory in the country have been closed to them, leaving the field to the so-called independent manufacturers. With the adoption of a new policy by the Western Electric Company, by which its output is now for the first time to be placed on sale in the open market, this handicap has been removed and it is freely prophesied that an even greater expansion of farmers telephone lines than has already taken place will follow in the next decade.

DAIRYING THAT PAYS

A few farmers make a handsome income from their dairy—many, achieve a moderate success—some, do not begin to make as much money out of their cows as they should.

There is a good profit in milk, but the farmer must know, first of all, what this profit is, and second, how to get the profit out of the milk. The man who wants to have his cows pay a good profit, and pay this profit all the year round, cannot study the problem too carefully.



FARMERS ARE TIRED

of having the cheap trash in the form of so-called farm papers thrust upon them. The time is come when the chaff is being sent up thru the P. O. Department "straw-carrier," while the wheat is allowed a fair chance to nourish and yield a profit.

WHAT \$3 WILL DO

SUCCESS MAGAZINE, one of the best of the high-grade publications, together with this set of

TEN VOLUMES OF ENGLISH FICTION, (Or ten volumes of American Fiction) which will be sent with all express charges prepaid, and also

THE NORTH DAKOTA FARMER for Three Years, or One Year to each of three persons.

If you are a school director, here is your chance. **ELEMENTARY AGRICULTURE** has come to stay in our schools. Help push on the good work.

Address,

NORTH DAKOTA FARMER,
Lisbon, N. D.

One of the most helpful books we have ever seen on the subject of profitable dairying, has just been received from the Vermont Farm Machine Company, of Bellows Falls, Vermont. In condensed form, it gives facts and figures that will prove extremely interesting to those who are ambitious to find the right way of running a dairy farm. In sending us

this book, the Vermont Farm Machine Company mentioned the fact that they would send free copies to those of our readers who were interested in the subject.

In order to insure prompt receipt, those who write the Vermont Farm Machine Company might mention this paper.

Home Affairs

Katherine C. Neilson, Editor

For January 1908

The two closing months of the year are valuable with happy conclusions.

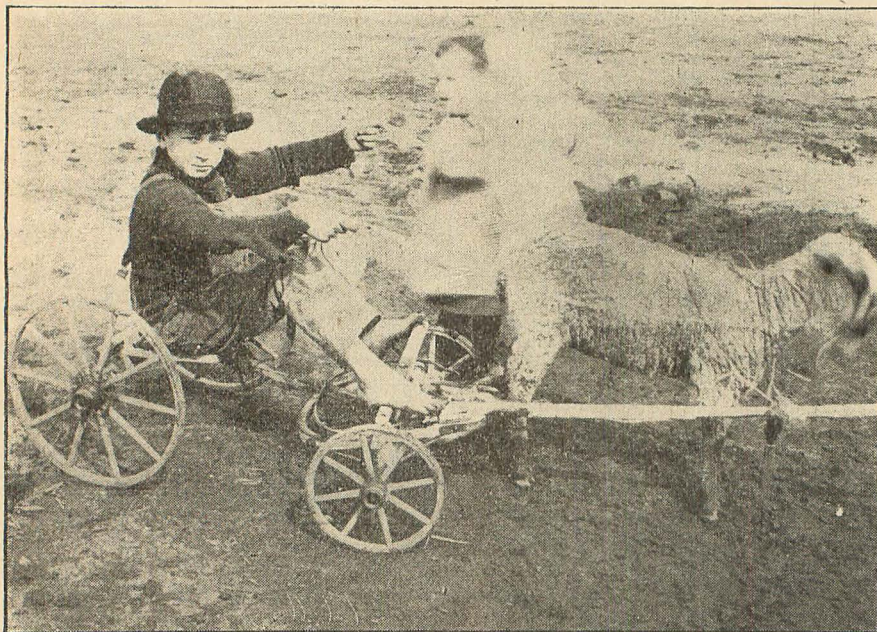
"Thanks for blessings received" followed by the advent of "Peace and Good Will" to all humanity.

Could a more appropriate ushering welcome the New Year?

We are now in the door-way of new

Farmers' Institute Report, something you have wished to question or discuss.

At our late institute meeting, an interested gathering of farmers and their wives gave tireless attention to important and ably discussed subjects. Among them was the paper on Domestic Science by Miss Childs of the Agricultural College.



A New Sheep Industry. "Necessity is the Mother of Invention."

resolutions before a clean record book. What shall we do to better our condition. What shall we read and study. Where can we improve our methods, what shall we do for others?

Let us progress. Make new, concise and simple plans for our betterment.

It is not a symbol of indolence to manage a household to get more time for rest and study. While resting the tired feet, have reading matter at hand, you will acquire some information that may make the next hour's work easier, something helpful and agreeable to think of.

If you have a club lesson next week, you may cover the outlines, in the short siesta, or you may read in the late

She gave a most excellent view of living and improving our homes—in a clear, simple and comprehensive manner. Can a woman choose a more useful field than teaching wholesome and practical living? Too many have ignored the home-keeping practice, their pernicious examples have made housework to the hired domestic an undesirable occupation, they seek other employments with less remuneration, less comfort and respectability. If a woman can study needle work, pyrography, pick out a crochet pattern, or the latest styles of blouse waists, she can study domestic science or she can read and comprehend what good housekeeping comprises, in some of the magazines published on domestic subjects, Good-

housekeeping, Boston Cooking School and several others.

No woman loses interest in the latest style of table linen, the size of monograms on napkins, the latest in curtains, the number of sofa pillows and decorations of the walls—even as much and of more importance is the heart of the household, the Kitchen.

There the health and cheerfulness of every member draws its sustenance. In the "Dawn of History" among nomadic tribes, when the patriarch of the tribes called them to rest and be refreshed by food, the first of the prepared food was given as an offering to the fires that cooked it, in thankfulness for substantial sustenance, it mentioned also that the men among the travelers built the fires but—the women were expected and were commanded to replenish them, (have the men of this age been far removed from that early dawn)?

To plan a kitchen with the least number of steps to prepare a meal shows domestic economy, *too much lost motion* is wearisome. If women could visit some institutions with modern conveniences in the kitchen, they would observe the most approved plans from the storeroom to the range. On a small steamer was seen a complete arrangement of wall-drop-shelves, one for slicing and preparing meats, another for slicing bread and cakes, also a rack over the range with shelves for bread-raising. Go into a cook-house on a ranch conducted by a man. Notice the order and condensed plans for the great amount of work in the least amount of time. Chopping potatoes in a frying pan with a tin can was first adopted by a man cook to save time.

While we are distinctly and proudly an agricultural people, the house work does not need to be in the rear of improvements. All farm implements are made to save time and money.

Men study their needs and bring out new inventions. Women should be as deeply interested and they might get new and inventive ideas, and it is new ideas that are patented, they too could have royalties paying for their original plans. A woman invented the three-cornered sink-strainer, another invented the hose-supporter, the "Velvet Grip," Now-a-days to be interesting, one must be interested in something. If you are a new settler and find the winter long and evenings long too, and feel lonely on the claim, you should introduce yourself to the surroundings by reading some of the early history and its legends.

Hiawatha, with its Indian legends, portrays nature in primitive loneliness, you will learn you are living on his hunting grounds, killing his game, the chickens, gathering his flowers, telling lonely traditions; tracing the foot-prints of the

bison; buffalo trails, leading to the streams. Or read Norse Myths and love nature better. Read "The Story of the Prairies" by Willard, The Geological Survey, The Use of the National Forests by Pinchot, U. S. of Agr., study the Agricultural papers, North Dakota Magazine published at Bismarck, the Bulletins, free to everyone, from the State Agricultural College at Fargo.

All of this interesting literature is free for the asking. Look out on your new home. Study tree and fruit culture and do not delay. We once lamented the absence of trees. Their growth will recompense you for your trouble, with shade and fuel. Start the old standbys and they will take care of themselves, which includes currant bushes, asparagus beds, horse radish, rhubarb, raspberries and strawberries and herbs. Don't forget the old-fashioned flowers you left at the old home door. The stately hollyhock, fragrant pinks, petunias and mignonette. Their associations will be your visitors.

Let your surroundings show your individuality, your care and cultivation, train a vine here and there a seat under a branch and watch the coming of birds and household pets. All of these signs signify love of home. A millionaire once said as he rode past homes in this state—"I would rather loan a farmer one thousand dollars where flowers were cultivated than where there were none."

Some of the wild flowers appreciate care and become doubly beautiful; look for the climatis in the woods, the wild hop, the woodbine and the bitter-sweet, give them a home and watch their growth. Coax the wild asters,—the sunflower makes a rich border similar to

goldenglow. The silver-bush a strikingly attractive hedge—the wild plum will, with cultivation reward you abundantly with improved fruit.

The hard boulders are valuable for building for both plain and elaborate architecture, for a rustic fireplace, when cool nights and cloudly cheerless days need the open fire to change the color of "The blues."

If you love nature you can see art for an artist. Many would prize the privilege of a study of our gorgeous sunsets, especially during the past seasons' gloamings thru the leafless trees. Even "the wildest winter storms are scenes of solemn beauty if peace be in the heart."

Rural delivery and telephones are quick responders, science has modified

the hardships of pioneering since in the '70's.

All of our adaptability, to circumstances, the study of our surroundings, the uses we make of our natural resources, gives character and history to our state, embellishes our landscape and improves our homes and farm. One half has not been learned of our possibilities. As Governor Burke said of late, "we cannot escape an education" with our valuable capabilities and we as engineers of agriculture have the honor of achievements. Never will we ask—"Breathes there the man with soul so dead, who never to himself hath said, this is my own my native land?" We have not reared men and women of that type in North Dakota.

OILS, PAINTS, AND PAINT PIGMENTS.

PAINT LEGISLATION

Remarks by Prof. E. F. Ladd before the American Society for Testing Materials at Atlantic City, N. J.

Few industries have developed during the past few years more rapidly than the ready-mixed paint industry. Probably no less than 70,000,000 gallons of mixed paints are now annually produced and consumed in the United States. Mixed paints are a necessity of our age; they are most convenient for use, the colors easily matched at any time, and it is not strange that the growth has been phenomenal.

I need not dwell upon the products first produced and sold as mixed paints; it is sufficient to consider what we now have to deal with. It is not strange then, with the wonderful development of the industry, and with the multitude of manufacturers now producing paints, some of whom seem to know very little of the business, or of the true principles underlying the manufacture and use of paints, if, without being under any restriction and control in such a rapid growth of the industry, abuses should be found which will require courage, persistence, and even legislative action to correct, in order to insure proper protection to the public.

It is unfortunate that some of the mixed paints have so little of merit, but how are the public to separate the good from the bad? I am, I believe, prepared to show that about 80 per cent of the manufacturers of paints are misrepresenting the facts to the public; they are deceiving them, misleading them, and, in not a few cases, defrauding them. This will be well proven by a study of Bulletin No. 70 of the Agricultural Experiment Station when taken in comparison with the literature fur-

nished by the manufacturers themselves.

With competition so fierce as has been the case within the past few years it is safe to say that paint manufacturers have not, as a rule, produced a paint as good as they know how to produce, but rather that the best of them were making as good a paint as they could sell in the face of the competition practiced. Unfortunately, there are many other manufacturers producing paint as cheaply as they can, and with little regard for the wearing quality as the first consideration; paints, for example, in which 75 per cent of the liquid portion is without any merit whatever, being chiefly water and benzene.

I would not for a moment have it understood that I believe that all the manufacturers of mixed paints resort to unfair methods; far from it; there are as honorable, high-minded, and public-spirited men among them as can be found in any calling, and I count among my acquaintances many such.

The conditions are not unlike they were in food matters when food control laws were first enacted. The standard of business was set not by the best men but by those who were shrewdest and not necessarily the most honorable. I know well too that the "almighty dollar" has so far lured many of their number from what is just and right that they resort to fraud and deceit of every kind that is applicable to the business, and in so doing they have brought discredit upon the others. Their methods must be changed or they will be forced out of business; then the honest man will be afforded an opportunity to do the very best he knows how to do in producing a superior product, and he will not be forced by unfair competition to lower his standard in order to hold his trade, but educated to recognize in paint that which possesses true merit.

It should not be forgotten, however,

SCHEDULE OF N. D. INSTITUTES

Bismarck—January 21-23.
Valley City—January 24-25.
Velva—January 27.
Minot—January 28-29.
White Earth—January 30.
Williston—January 31-February 1.
Devils Lake—February 4-5.
Lakota—February 6.
Grand Forks—February 7-8.
Aneta—Feb. 10.
Finley—February 11.
Nome—February 13.
Kathryn—February 14.
Casselton—February 15.
Walcott—February 17.
Wahpeton—February 18.
Milnor—February 19.
LaMoure—February 21.
Jamestown—February 22.
Minto—February 24.
Cavalier—February 25.
Walhalla—February 26.
Crystal—February 27.
Pembina—February 29.

that there is a demand for two grades of paint; a first and a second quality. But the honest manufacturer should make both, then so label them that the public shall know the difference, and the proper use of the two classes of paints. He should not leave this to others who will produce any kind of a mixture that can be sold and to the detriment of a good paint.

Classes of Materials Used in Paints

It should be understood that our discussion has to do with ready-mixed paints for house painting, and not with specialties, or paints designed to be used where engineers and chemists are employed and so can safeguard the interests they represent.

This leads us to a discussion of materials used in paints, and for convenience we may divide them into three groups:

1. Basic or statutory pigments: White lead and zinc oxide.
2. Class A pigments: Sublimed lead, leaded zinc, lithophone, and zinc lead white.
3. Class B pigments (erroneously so-called inert pigments): Gypsum, chalk, barytes, silica, etc.

The majority of the paint manufacturers admit that white lead and zinc white have been, for a long time, recog-

nized as the basic constituents entering into the composition of the best grades of mixed house paints. Whether rightly or wrongly, manufacturers have aided in creating this impression, and have so claimed to the public by setting forth the merits of their own product as being produced from these constituents. The working and wearing quality of these two pigments are likewise well known to the public, and form their standard of comparison for house paints. The public have, therefore, a right to know when other products have been substituted or

added to the pigment employed in paint making, and to know the reason for such change.

Are the Class A pigments the equal of the old Dutch process white lead, or the best French or New Jersey zinc white? Paints containing zinc lead whites in considerable proportion, in my experience, cannot be depended on to wear well; they soon begin to wash and run. Some recent experiments with well-known paints containing zinc lead white were found to give bad results; at the end of a few months they were washing

How to Save Paint Bills

Be careful not to use imitation paints, or substitutes for pure White Lead, containing clay, chalk, etc. They will surely crack, scale and fade, and cost more to burn off than they did to put on.

CARTER

Strictly Pure

White Lead

is most economical because every atom is paint. Spreads best, covers most and wears longest. Gives any color or tint. Sold by reliable dealers everywhere.

Send for our booklet, "Pure Paint." Gives valuable information on the use of paint, and saves you money by showing how to avoid worthless paint mixtures. Sent FREE with six beautiful color schemes.

Address Dept. W
CARTER WHITE LEAD CO., Chicago, Ill.
Factories: Chicago—Omaha.



The highest quality and best paint for all Good painting.

Every drop honest value—every can full measure.

Satisfactory Results Guaranteed

We insure the life of our Paint.

BRADLEY & VROOMAN CO.,
PAINT MAKERS,
CHICAGO.

THE ONLY BARN PAINT

bearing a formula label showing its composition and conforming in every detail to the laws of North Dakota.

PITKIN'S TRIPPLE CROWN BARN PAINT IS GUARANTEED TO WEAR 5 YEARS



The greatest part of the cost of painting is the labor necessary for applying. Therefore it is certainly economy to buy the paint which will wear the longest and at the same time give satisfaction.

Pitkin's is that paint. Pitkin has been making paint for 40 years and has a reputation for integrity and reliability that is in itself a guarantee of the goods.

Be sure to buy the right paint; not the cheapest paint. Send for a free sample.

Geo. W. Pitkin Co.,
Paint and Color Makers,
Benton Harbor, Mich.



There Must be Good Linseed Oil in Good Paint—

Otherwise the paint will not be good—it will not wear. The life of paint is largely determined by the linseed oil used in its manufacture. It's the oil film that resists the action of the sun and rain and smoke. Ordinary oil makes ordinary paint every time. Sherwin-Williams strictly pure, carefully aged linseed oil makes

SHERWIN-WILLIAMS PAINT, PREPARED (S. W. P.)

an exceptionally good paint for your buildings because this oil is very much better than the ordinary linseed oil of commerce.

It is made in our own mills and every precaution taken for safeguarding the quality. We exercise the greatest care in selecting the flaxseed. Only Northwestern No. 1 seed is used, because it is the best procurable. Although the seed is cleaned when we buy it we carefully re-clean it to make sure that no foreign substances, such as rape, mustard, cockle, etc., remain. We extract the oil at a lower temperature than usually employed which prevents the albumen, mucilaginous matter and other injurious substances from entering the oil. We always age and clarify the oil before using it which makes it a much more fit vehicle for use in paint, although not always done.

The high quality of our linseed oil means sure protection to those who use S.W.P. Be sure to get S.W.P. when you paint. For sale by the best dealers everywhere.



THE SHERWIN-WILLIAMS CO.

LARGEST PAINT AND VARNISH MAKERS IN THE WORLD

FACTORIES: CLEVELAND, CHICAGO, NEWARK, MONTREAL, LONDON, ENG.

SALES OFFICES AND WAREHOUSES IN PRINCIPAL CITIES



What Will It Do?

This is the question for you to ask when buying paint.

There are too many paints on the market that have no merits except that they sell at a low price or are made of S. P. Lead or Lead and Zinc.

What you want in paint is

- 1st.—DURABILITY
- 2nd.—COVERING CAPACITY
- 3rd.—APPEARANCE
- 4th.—COST PER YEAR TO PROPERLY PROTECT THE SURFACE

The Heath & Milligan Paints

possess the above qualities and insure BEST RESULTS

ASK OUR AGENT OR WRITE TO

Heath & Milligan Mfg Co

Paint and
Color Makers



Chicago
U. S. A.

badly,—at the end of nine months they were showing considerable disintegration. The reason for this may probably be found in the fact that the lead sulphate is not a good paint material, and in combination we should not expect it to be free wholly from the objectionable qualities. Again, it is objectionable for the further reason that the product is not of uniform composition, containing varying amounts of arsenic and antimony compounds, and zinc sulphate. Samples recently examined in my laboratory show the following range for these constituents when calculated as:

	I	II	III	IV
Arsenious oxide	.68	.47	.32	1.60
Antimony oxide	.20	.33	.20	.88
Zinc sulphate	.78	.55	1.61	.84

In other words there may be present fully three and one-half per cent of these ingredients.

The presence of arsenic in interior house paints is certainly not more to be commended than is wall paper containing the same ingredient. It was only a few years ago that physicians and sanitarians alike compelled the discontinuance of the use of arsenic in wall paper, and caused paper containing such arsenic to be removed from the walls, having clearly demonstrated to their own satisfaction that many cases of ill health

could be traced to this slow poisoning by arsenic. We cannot afford to again ignore the matter at this time. Certainly there was less arsenic in the paper than is now found in the paints containing some of the zinc lead whites. The leaded zincs of Missouri and Kansas contain from 4 to 10 per cent of lead sulphate, and as high as one and a half per cent of zinc sulphate. What has been said about the wearing quality of paints containing zinc lead white is equally true, in our experience, with those containing leaded zinc.

Lithophone has a place in floor paints, in some enamels, in the oil-cloth industry, and in many specialties, but its best friends have not been enthusiastic over its use in ready-mixed paints, for many of its shortcomings are well known.

This brings us then to a consideration of sublimed lead, the use of which has increased in the past few years. Its greatest use will not, however, in my judgment, be found in the highest grade of ready-mixed house paints. The difficulty of satisfactorily applying paints containing considerable portions of sublimed lead in cold weather, and even in the cooler parts of the day, are no new thing, but well understood. Other difficulties have been pointed out and considered by the writer in "Analysis of Mixed Paints, Color Pigments, and Varnish"; certainly then if what I have said be true, it cannot be claimed that the substitution of pigments of Class A for white lead and zinc white without the knowledge of the consumer would be justifiable. In other words, they are not the equal of the basic pigments so long and favorably used by the public as their standards for pure paints.

Class B pigments have cheapness as one of their chief merits and therefore an unlimited opportunity for misuse is offered, and taken advantage of. Those who are best posted do not generally claim that they are substitutes for white lead in oil, but rather that they can be used in combination with white lead within certain limits. There is, however, no fixed consensus of opinion either among paint manufacturers or their chemists as to which is best; some manufacturers condemning one and extolling the merits of another, while a competitor will contend as vigorously that the reverse is true. Some of the products employed in this group are very far from being either pure or inert. This is true of some forms of gypsum, which, when not properly dehydrated, and containing quicklime, cannot by any means be considered as inert material, for its presence produces most serious results in some paints. It is to be borne in mind, how-

ever, that not a few paint manufacturers are ignorant of the chemistry of paint materials; they are in reality "mixers," according to a prescribed formula that has come into their possession, and are often as unacquainted with the science of paint manufacture as they are with its chemistry.

Even lime carbonate is not always an inert ingredient of paint, but at times is employed on account of its possibilities as a chemical agent. The necessity for

its use might sometimes well raise a question regarding the character of the oil employed. Some of the paints containing rosins, alkali, emulsions, etc., have been a source of trouble, little understood by the manufacturer, because he did not always know that these products were present in his factory.

(To be Continued)

Boys Interested in Corn Culture Contests Should Read Personal on Page 3.

MASURY'S
HOUSE
ARE

THIS
ON



LIQUID
PAINTS
PURE

LABEL
EVERY
CAN

100 PER CENT DURABILITY.

With a record of sixty-five years is the guarantee that

MASURY'S PURE LIQUID HOUSE PAINTS

Offer for Durability and Economy.

THE STANDARD OF EXCELLENCE FOR SIXTY-FIVE YEARS

JOHN W. MASURY & SON, Manufacturers. Paints, Colors and Varnishes.

NEW YORK

ST. LOUIS

CHICAGO

MINNEAPOLIS

NORTHWESTERN BRANCH. 320-322 Second Ave. No., Minneapolis



Things Worth Knowing about The Best Paint

A

LL good paint is mixed in pure linseed oil. Linseed oil is the life of any paint. The paint that is mixed in the best linseed oil is the best paint; the brightest; the most lasting; the cheapest. We make our own linseed oil—from Northwestern flax—press it in our own mills and mix it ourselves. That's why we know that Minnesota Linseed Oil Paint is better than other paint.

In this pure Linseed Oil we grind guaranteed pure White Lead, pure Oxide of Zinc, pure Colors, with the proper Driers. — You can't buy better paint in the world than this. If we could make it any better we'd do it. We have been making this paint for thirty-six years and it's better now than it ever was. — It looks better and lasts longer than any paint you ever used. We put it up in full U. S. Government measure cans.

"A SPECIAL PAINT FOR EVERY PAINTABLE SURFACE"
INSIDE OR OUTSIDE

Some dealer in your town keeps it—or write to us for color card and we'll tell you where you can get it.

MINNESOTA LINSEED OIL PAINT CO.
THIRD ST. SOUTH MINNEAPOLIS, MINN.

Hundreds are using Personal,
page 3.

Pure Food Department.

All Matters Pertaining to Foods will be Discussed in this Department

The Food Department has recently prosecuted several butchers in this state for using chemical preservatives in sausage and hamburgersteak. No man should be tolerated who persists in using dangerous chemicals in our food products.

It is said also that some of the sausages contain too much water and starch to be sold at the price of meat. Why not squeeze out some of the water and fillers from the meat products?

THE FRENCH WINE INDUSTRY

How Fraud is Practiced and a Great Agricultural Industry Crippled and the Farmers Impoverished.

By L. Van Es, Professor North Dakota Agricultural College

In the October number of "Lectures pour tous" a popular French magazine, the wine industry of France in connection with the crisis in the southern wine regions is discussed. The writer reviews the various causes leading to the present depression in the wine market and in pointing out the part played by fraud and adulterations writes as follows:

"Where does this depression come? Is it simply because there is too much wine on the market, more wine than France will or can drink? Without doubt there is too much wine on the market, as the people drink their part and yet there is left over. However, does it follow that the vines produce too much wine? There is overproduction in the vaults. But is there overproduction in the vineyards? That would be evident, if it were certain that the wine in the cellars actually came from the vines; but this mass of wine, which is offered by the trade, does it all come from the vineyards? There is the question!

Formerly, before the phylloxera, that is to say before 1876, France produced more wine than now and it did not remain in the cellars. Now, the population of France has increased, the yield has decreased; habits of comfort and of a certain luxury have become established among the mass of the people. Must we believe that the thirty millions of French people, taken as a whole, the workmen, the peasants drink less wine than formerly? That would be a mistake. Without doubt, modern medicine by its advice has reduced the use of wine, but that is the use of fine wines which suffer least from the depression in

prices and by the richer classes, consequently the least numerous ones. The number of water-drinkers in evening dress or tennis suit, those who in the restaurants are designated as ducks is largely balanced by the drinkers in overalls, blouse and shirt-sleeves. The people drink as much and more wine than ever before.

That is shown by figures. In 1906 the wine offered for sale in France, the wine taxed by the government, amounted to forty-seven millions of hectoliters. Never, even in the most prosperous times, has more wine been sold. Besides, all is not put on the market. The wine producers themselves drink wine; sometimes even they are their best customers and this wine drunk at home and which is not taxed because it does not leave the premises of the proprietor amounts to twelve or thirteen million hectoliters per year. Added to the forty-seven million hectoliters of dutiable wine, this makes about sixty millions of hectoliters, which have been drunk by the French in the year 1906.

There are also the wines coming in from the outside, but this importation is fully balanced by exportation to foreign countries, by shrinkage and by wine worked into brandy.

Thus we see the French in 1906 drinking sixty millions hectoliters of wine. Where do they get it? The yield of 1906 did not bring more than 53 millions hectoliters. From 60, subtract 53, there remains 7. That is a difference of 7 millions of hectoliters. Whence do the drinkers get those seven millions of hectoliters of fruit which our good mother, the Vine, ignores? To this question, the South answers with one voice, "From fraud."

The thousand and one ways to make wine without grapes. To be sure, fraud is not a great novelty; but modern science has given it new weapons, ingenious and nearly invisible.

To make wine without grapes is mere child's play, a great deal less difficult than diabolism. At every attempt one wins. It is necessary to be close to good water, and get some sugar at the grocer's. The water costs nothing, the sugar, since the removal of the duty in 1903, costs little; one furnished the liquid, the other the alcohol, at a rate of 1° per hectoliter of liquid for every 1700 grains of sugar. All this is poured on the skins and seeds, which already have produced wine. A little tartaric acid is added to give it the tart taste, a little log-wood to give it color, yeast to make

it ferment and see there something, which can pass for wine in perverted throats and in palates without delicacy on the counters of the (bistros) shops at 8 or 9 francs per hectoliter.

When the wine, the real natural wine of the South, of which the sun has supplied the alcohol, of which the plant has furnished the color and of which the fruit has furnished the taste, presents itself at the door of (bistro) the shop, the fraudulent wine says:

"To late! The place is taken. You are overproduced. You are too much. Go on! !"

Such a kitchen has the odd name of "vinage." It should be really called "devinage", as, not only in this manner no wine is made, but the little natural wine, in which one deals is spoiled. It has actually been seen that 275 hectoliters of wine at a fine color were made with 175 hectoliters of wine and 100 hectoliters of water.

An expert chemist says this of the wines which were submitted to him by the courts:

"Those wines are fabricated by causing sugar water to be fermented on exhausted skins and seeds, often on dried skins. The inversion of the sugar and the acidification of the wine are most frequently obtained by the aid of sulphuric and tartaric acid; sometimes

PURE MINN. AMBER CANE SYRUP

In five-gallon. Wood jacket cans, F. O. B. Waterville, Minn. \$3.75 for 5 gallons. Same rate for more. This is 25 cents more than last fall but costs that much more.

Address,
SETH H. KENNEY,
Waterville, Minn.

HONEY Well ripened clover Honey for Sale, guaranteed absolutely pure and of the finest quality. One 30-lb. can 11 1/4c per lb.; 2 or more cans 11c; 12-lb. cans, in full cases of 72 lbs., 11 1/4c per lb. Send for price list. Address
M. V. FACEY, Preston, Fillmore Co., Minn.

"Everhart's

Candies are

PURE."

FARGO MILLING CO.

Fargo, N. D.

Pays the highest market

price for wheat.

large amounts of sulphuric acid can be shown. To obtain the dry extract, the most strange additions have been devised; tomatoes, beets, tannin, etc.

For color, there is added to this extraordinary mixture, dock, indigo, lithmus or alkanet, privet, alderberry or red beets.

A BREAD MYSTERY

Every now and then you pick up a paper or a magazine and you read an article upon diet perhaps, and come across an analysis of white bread, and you learn that it contains, the white bread, say seven and one-half per cent or eight per cent of muscle formers, proteids, albuminoids, flesh formers, flesh, bone and blood producers, nitrogenous matter, all embodied in the word Gluten. Evidently gluten is king in the cereal kingdom; starch may be queen, but King Gluten holds sway and rules the roost and never allows the queen to don his breeches!

But what is strange about this gluten situation is that, altho you read about flour containing ten per cent to fifteen per cent of gluten, the resultant bread, as far as published analyses go that you run across, show very low in gluten, often only seven or eight per cent.

Why is this? Gluten is not an etheral substance, altho a patent medicine man, who put out a brown liquid containing alcohol, sugar, etc., and as clear as crystal or a cup of spring water, insisted, when I laughed at his claims for great food value, that there was 22% of peptone of meat and gluten in the liquid? So I am wrong, perhaps, in thinking that gluten is a rubbery substance found plentifully in wheat, and very material in its make-up. So where does the gluten go? It cannot well evaporate in the mix; some water may, but not any gluten; it does not pass off with the carbon dioxide from the "trow" when the yeast is getting in its work; it is not used up by the sealing machine, nor does it evaporate like ether in the oven; so if in the wheat flour, why not in the baked bread?

All must have bread, from the infant whose salivary glands are just developing, to the aged and infirm tottering upon the brink of the grave. Bread is the cry, loud and strong. Take the diabetic patient, in whose case, because of the sugar producing starch in the bread, the doctor interdicts white, wheaten flour bread. How that patient protests! He can cut out sugar and pie and cake and all the things tabooed by the doctor, but "Give me bread," he cries. So the doctor says, "Well, eat 'gluten bread,'" and "gluten" flour is bought and special "gluten" bread is made for him, and, as a matter of fact, the poor devil of a pa-

tient to whom starch is a virulent poison in his condition, eats in this "gluten" bread more starch than were he to have continued with his white baker's bread. As a matter of fact, there is not, nor was there ever, made a pound of pure gluten flour. There is no more menacing fraud than this pure "gluten" flour and bread and biscuit fraud, and I wonder why Professor Wiley doesn't take notice. It is a great deal worse than the "tonics" made especially for prohibition and local option States, containing 60% of alcohol.

But back to our Durums. Here in Durum wheat we have a flour so rich in gluten that when you imagine a loaf of bread made from it and compare it with a loaf with but 7% of gluten in it, it makes you think of how, going to a

butcher and buying a steak or a roast he by some means or other was giving you twice more lean to a pound of meat than ever before, at the expense of the fat, or twice the lean of pork or ham and

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LOOKS LIKE COFFEE BUT
TASTES LIKE COFFEE IS NOT
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Is a Scientific blend of the Choicest Rye Wheat and Barley Grown, no hulls, chicory or dope in it. Aids digestion and cures dyspepsia. Costs $\frac{1}{3}$ less than Mocha & Java—is 20 times better. A pound package post paid on receipt of 25 cents. Write for our three special offers. Ask your grocer for it first.

MINNEAPOLIS CEREAL CO.,

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Agents wanted everywhere.

Minneapolis, Minn.

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The Name

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On the label of any food product is an absolute

Pure Food Guarantee

And it is also a guarantee that the product bearing the label has reached the highest degree of excellence in flavor and wholesomeness that it has been possible so far for any food product to reach.

If your dealer does not handle Nokomis Canned Goods and Nokomis Coffee, send us his name and address and we will undertake to see that you are supplied.

STONE-ORDEAN-WELLS COMPANY,

Duluth, Minn.

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade.
ASK YOUR GROCER FOR THEM.

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"EAT"

HOME BRAND

Pure Food Products

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PARK, GRANT & MORRIS GROCERY CO.,
Grand Forks, N. D.

WHOLESALE DISTRIBUTORS.

RETAILERS PROTECTED

The National Food Law did not take effect until January 1st, 1907; and all goods on hand or receive by you prior to that time, are not affected in any manner by the National Food Law, and will not be, unless shipped from one state into another after the law goes into effect January 1st, 1907.

For your protection, it is necessary that you handle only pure goods, properly labeled within the meaning of this law and we, therefore, call your attention to the fact that food products sold to you by us are not adulterated or misbranded and are all guaranteed to conform to the requirements of all food laws, both State and National. This guarantee protects you from prosecutions under the National Food Law on any food products purchased from us hereafter.

REID, MURDOCH & Co.,

Chicago.

Libby's

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Products

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Preserves etc.

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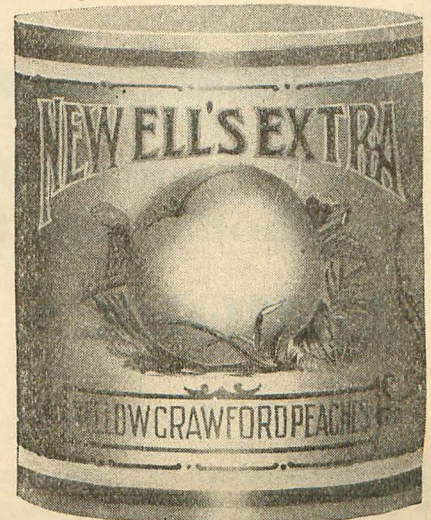
NEWELL'S EXTRA LINE

Represents the highest quality of food products that can possibly be obtained. Purity and quantity always stand foremost.

Geo. R. Newell & Co.,

WHOLESALE GROCERS,

MINNEAPOLIS, - - - MINN.



a consequent comparative reduction of the fat!

Now, this Durum flour proposition is one of tremendous import to the nation at large, and if there are any objections to the use of straight Durum flour, 18% and upward rich in gluten, what are they and how can they be met in a perfect loaf acquirement?

Is the gluten so abundant that the machines for mixing in use will not hydrate it properly? Then go to work and build a machine that will perfectly mix and saturate the gluten with its fullness of yeast-water. This can be done without question. If this be not the trouble, then what is the matter? Is the gluten yellow, and does the bread come out of the oven of a yellow tinge, and do the public object to that and insist on going back to the white and weaker bread, in a gluten sense? Well, whiten it up for them, bleach it, not by pumping gases of sulphurous acid, electricity and such things into the flour, but, when mixing and kneading, introduce lots of air, the free air you ventilate your mixing room with, provided the mercury is not below zero. Lard is whitened by mixing air with it, and hundreds of other things are so whitened by mixing them freely with air or introducing air freely into them. The negro mammy cook of the South makes beaten biscuit whiter than the driven snow by beating the dough full of air blisters with a rolling-pin. It is these blisters or cells of air that make the biscuit put the snow to shame for whiteness. So if it is color that holds back the use of Durum flour and robs the bread eater of the twofold quantity of muscle making food in his bread, make the bread white and give it to him in a presentable form. The baker who makes and puts out a perfect loaf of Durum flour bread has a golden path-way ahead of him. National Baker.

Hundreds are using Personal,
page 3.

THE FOOD LAW AND TOMATO SLOP

Several years ago North Dakota drove out the worst of the slop tomatoes coming from the East. Here is what the Grocery World has to say about the situation in Pennsylvania.

I'm not in the business of stirring up trouble, yet if the Pennsylvania state food law could be made to apply to some of the slop that comes here under the name of canned tomatoes, it would serve the packers right and do the whole trade good.

A certain packer sent a broker three cans of goods like this during the past week. The broker opened them all and then disgustingly wrote the packer that all three cans didn't contain together as much real tomato as one can ought to.

Tomatoes and water.

The Pennsylvania food law provides that an article shall be considered adulterated "if any substance has been mixed or packed with it so as to reduce or lower or injuriously affect its quality or strength."

Or "if any substance has been substituted wholly or in part for the article."

Or "if any valuable constituent of the article has been wholly or in part abstracted."

I tell you, it's an exceedingly close question whether a dealer who, asked for a can of tomatoes, sells a mixture of tomatoes and water, is not subject to a food law prosecution.

Where is the difference between that and selling milk adulterated with water?

Or vinegar adulterated with water?

I can't see any. In all such cases the buyer is not getting what he asks for and pays for. In the case of canned goods he is peculiarly helpless, since the goods are sealed and not subject to inspection.

Suppose such a case was brought, let's consider what defense could lie.

That the goods sold were what they were represented to be—tomatoes?

Or that the buyer knew what he was buying and so was not deceived?

Or that the food law did not apply to cases where food products were diluted with water?

Not one of these would be supported by the facts. There is one thing certain—if a food law doesn't apply to such cases, no law does, and it is hard to see what law can, since it is a plain case of the willful deterioration of food.

I should hate to see any prosecutions along this line hurt the grocer, but if they could be so brought as to soak the packer I would be strongly in favor of trying the question out. Everybody is sick of the wretched slop that some of the packers throw on the market as canned tomatoes.

EPIDEMIC OF GREEN OYSTER

There has been considerable complaint of late about green oysters. Dr. Crumbin, Health Officer of Kansas City, has this to say on this point:

"There seems to be an epidemic of green oysters in Kansas. Several specimens have been sent to me from different parts of the state. These oysters are of such a peculiar, vivid green that they attract attention. I had one such sample analyzed by Prof. Bailey of the State university, and another by Prof. Willard of the State Agricultural college, and both chemists found the green color to be due to an excessive amount of copper. It is not quite clear where the copper comes from. It is possibly due to natural causes, owing to the beds from which these oysters come.

Some have reported cases of sickness due to these green oysters, but whether the sickness is due to the copper in the oysters, or to ordinary ptomaine poisoning, I have not been able to satisfactorily determine."

Boys Interested in Corn Culture Con-
tests Should Read Personal on Page 3.

**U. S. Inspection guarantees the purity; ARMOUR
methods add the likable quality**

ARMOUR'S TRADE *Veribest* MARK **MEATS.**
Packed in Air-Tight Tins.

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“Does It Pay to Have A Telephone?”

The farmer who depends upon roundabout rumor for his knowledge of prices current on cattle, grain and hay, stands to lose money; for while the word of a good price is reaching him the market is likely to drop.

The farmer who has a telephone can get the latest up-to-the-minute quotation at any time—and can sell his products when prices are highest.

That is one of the times and one of the ways in which it pays to have a telephone—that is, a *reliable* telephone. The sort of telephone that balks or goes off duty when you are depending upon it most never pays anybody to own at any time.

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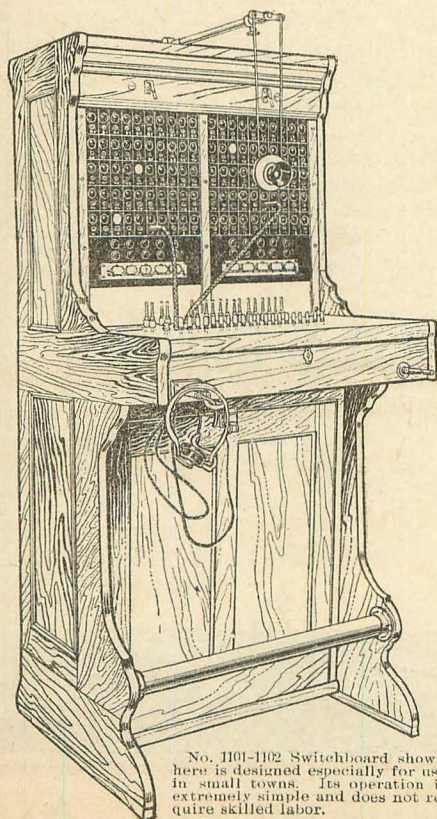
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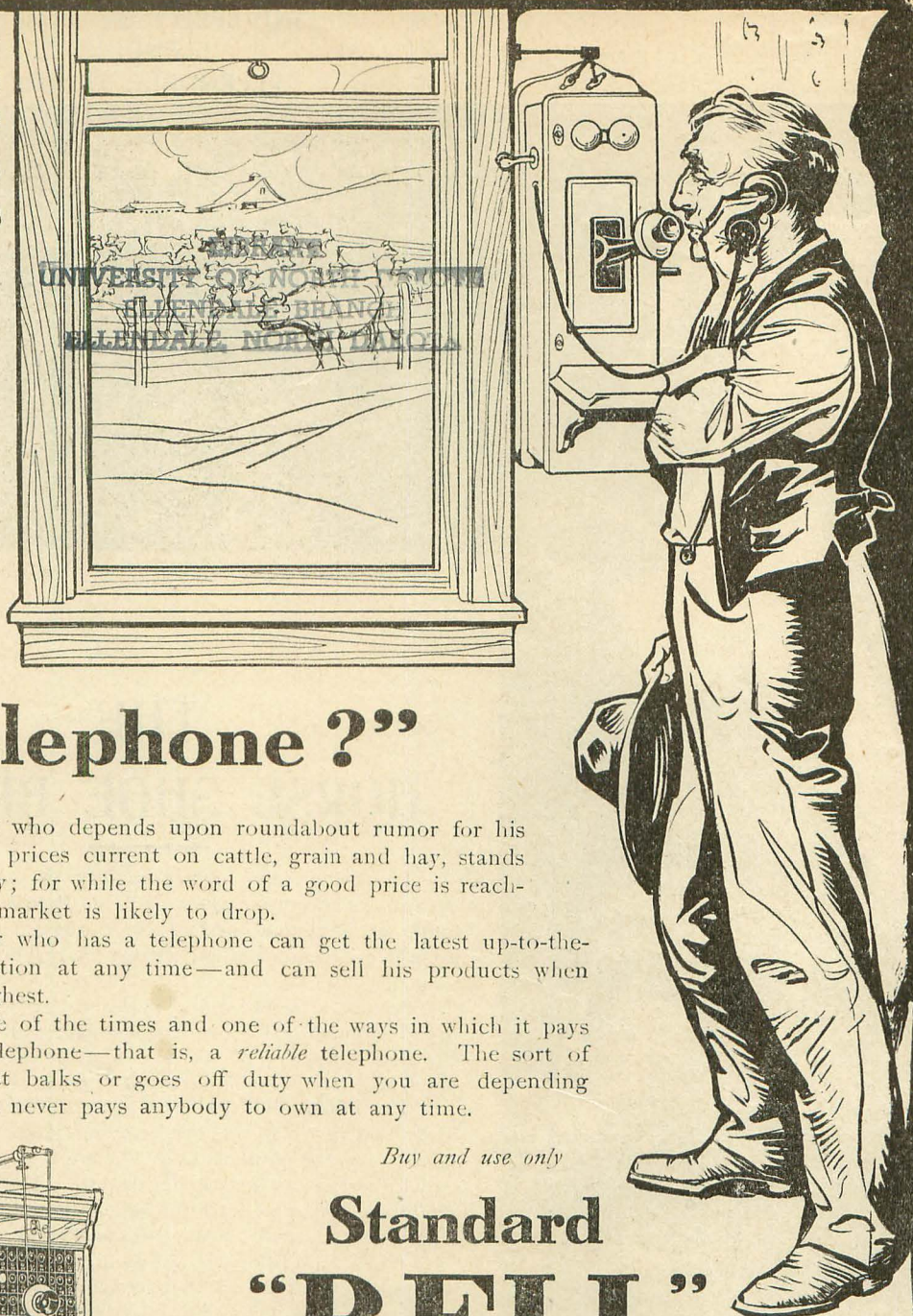
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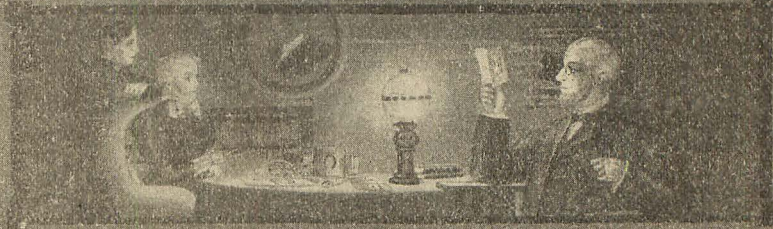
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No. 1101-1102 Switchboard shown here is designed especially for use in small towns. Its operation is extremely simple and does not require skilled labor.



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Science can recognize nothing but truth. Intention may be honest and desire laudable but if either swerve from the fixed principle of law and fact the discovery of truth must wait for the unbiased mind to reveal it.

The **HORSE SHOE PAINT** is made of materials recognized and accepted by all authorities practical and scientific as the best known for paint making. There is nothing in it about which there is any question or dispute. It's a pure zinc, lead and linseed oil paint, with the necessary pure drier and tinting color. All standard, nothing experimental.

When all authorities are as fully agreed as they are on zinc, lead and linseed oil, that some other material is necessary to improve it, we will add that to its composition. Until then the **HORSE SHOE BRAND** will remain as it is, a composition of the standard paint materials, free from everything doubtful or experimental. That is a course equally safe for all parties.

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